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ABSTRACT

Proceedings of the twelfth international conference on improving university teaching are presented. Theme presentations and authors include: "Distance Education: The Promise and the Confusion!" (Allan F. Hershfield); "Distance Education: The 'New Frontier' of Learning?" (Kevin C. Smith); "Teacher Training: A Challenge to the University View of Teacher's Organizations" (Marc-Alain Berberat); "Sleeping Beauties--Or: Functions and Instruments of Associations Viewed from the Perspective of Their Role in Improving University Teaching" (Ulrich P. Ritter); "Corporate and University Partnerships" (Robert J. Kopecky); and "Corporate and University Partnerships: A European Viewpoint" (Jean Michel). Seminar papers and opening and closing papers and authors are as follows: "Part-Time Students: Rule or Exception?" (Ulrich P. Ritter); "Excellence and the Adult Part-Time Student" (Barbara Mayo-Wells); "Distance Learning and University Teaching" (Lord Perry of Walton); and "The Faculty: A Changing Profession" (Jack H. Schuster). (SW)

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Improving University Teaching

Twelfth International Conference

Proceedings

July 15-18, 1986
Heidelberg, Germany

Under the auspices of
The University of Maryland
University College
and
The University
of Heidelberg.

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OPENING REMARKS

T. Benjamin Massey
The University of Maryland University College

This year's IUT Conference will be focused on several different themes--distance learning, the cooperative efforts of industry and institutions of higher education, the use of technology in learning, and new issues in faculty development.

All of these themes, however, rest on some basic and very vital questions about what constitutes teaching as well as learning. I would like to outline these questions briefly in hopes that they can form a kind of intellectual foundation for our discussions over the next three days.

In our individual sessions we will be unable to come to any final answers to these questions, of that I am sure. Nevertheless, they underlie almost all that we do, and we should keep them foremost in our minds. The questions are purposely framed to be thought provoking and for some controversial, because I believe they are the hard questions all those attempting to improve university teaching must face--whether they are asked by the public, by the university's administration, or most importantly, by our students and our colleagues.

The first question I would like to pose for this conference is prompted by the tremendous explosion in distance learning around the world. Students using study guides, video tapes and computers are independently studying all manner of topics at home, at work, and even on ships at sea. Given this, we must ask

if the teacher-student relationship is necessary, and of what it consists? If we claim that a) we can identify it, and b) it is necessary to effective learning, then we must ask how that relationship can be built into distance learning?

Next, as we discuss the various collaborative activities that have developed between businesses, government agencies, and institutions of higher education, we must ask ourselves what the value is of our many professional undergraduate concentrations and majors if that training is quickly outmoded. It's reckoned by some that an engineering degree, even from our top engineering universities, is out of date 18 months after it is awarded. That may well be an exaggeration, but I'm sure we have all heard businesspeople say, "Let us do the training for specific jobs. You educate the students; teach them how to read write, compute and think critically." If that is in fact the case, should we be rethinking our entire systems of liberal education--jettisoning the very popular career training from our undergraduate curricula, and instead working closely with industry to provide excellent and job specific post-university training at the workplace?

The third question I would like to ask refers in some ways back to the first, but it is equally relevant to both distance educators and those who teach in the traditional classroom. As the Information Age and its accompanying changes sweep over our societies, we must ask ourselves exactly what technology adds to the teaching-learning equation? Can a computer teach mathematics as well as a faculty member? What about writing skills? Will

our 4th generation languages make possible more artificial intelligence than we know how to use in the classroom? And does the younger generation's reliance on the visual stimulation of videotape, computer screens, and soon, the interactive videodisc mean that certain kinds of learning skills will inevitably be lost? And does that matter? As you can see, these questions snowball from our initial inquiry about technology's value to higher education. It is tempting to bury our heads and try to ignore them; but we would do so, it seems to me, at our own peril.

Finally, this conference, with its international participants, seems an ideal place to ask out loud the question we have undoubtedly all asked ourselves. We are all teachers of one sort or another, and yet have we reached any consensus about whether skill and training in teaching methodologies is enough? Or do truly outstanding teachers have some kind of gift--an intuition or an art--that has eluded our attempts thus far at teacher education and faculty development? Can we improve university teaching in the most basic way--by improving the teachers? I believe we can, but to do so, I think we will all need to grapple with some of these difficult questions. This conference seems an excellent place to start, and I'll look forward to sharing in your deliberations and your responses.

We are honored to begin this process by hearing today from a very distinguished leader in the development of new forms of university education, Lord Perry of Walton.

DISTANCE LEARNING AND UNIVERSITY TEACHING

Walter Perry
The Open University

I am extremely glad to be here today and there are three good reasons why this is so.

First and foremost it is always a pleasure to visit Heidelberg; to visit it on the occasion of the 600th anniversary of the founding of its university is a very special pleasure. I could not find out that there was any other great dramatical historical event in 1386. It was, however, only about one generation after the Black Death had wiped out 1/3 of the population of Europe. That puts its age in perspective.

My second reason for being pleased to be here is that I relish the chance of once more being actively associated with the University of Maryland which pioneered serious distance education in the United States. Indeed in 1978, at a commencement ceremony where they awarded me an honorary degree, several other graduates had taken their first degrees by obtaining credits from Maryland University in courses originated by the Open University. This was a remarkable early example of the acceptance by one institution of courses produced by another.

And the third reason for my pleasure is very simply that the topic of this Conference, the improvement of university teaching, has for many years concerned me greatly. It was, in fact, the primary cause of my becoming involved with the Open University--a story that I will return to in a moment.

But, before I do, I want to thank the organizers of the conference for the honor they have done me and for the threefold pleasure they have given me.

I first became involved in university teaching in 1958 when I was appointed Professor of Pharmacology in the University of Edinburgh. This is a much younger institution than Heidelberg dating only from 1583; but it is an extremely traditional and conservative one. I had spent my whole career in clinical medicine and medical research and I had never even given a lecture; or, indeed, had any instruction in how to teach. I can remember vividly with what trepidation I faced my first class. The students had been studying pharmacology already for 2 terms. They knew that I was new; and I knew that they knew that I was new! So at 9 a.m. on the first day of term I was greeted by cheers and shouts from 200 of them. When the noise died down I made my first mistake. I said "Good Morning." This was a signal for a renewed outburst of cheering, scraping of feet and clapping. It went on and on. I stood with a silly grin on my face and then, quite reflexly, I reached in my pocket for a cigarette. I had the match in my fingers when I realized that there was dead silence. At that moment I realized that if I lit the cigarette I would probably never be able to control them. So I very slowly, fixing all 200 of them with what I hoped was a basilisk stare, put the match back in the box, smoothed open the silver paper of the cigarette packet, tapped the cigarette back in place, closed the packet, and started my lecture. I never afterwards had any problem. I was very lucky--the incident was wholly unpremeditated.

I discovered that I enjoyed teaching and I worked at it. I also discovered that the general standard of teaching in the medical school--and indeed in the university--was abysmal. Typical of many was one of my lecturers. He was always willing, at virtually a few minutes notice, to give a lecture on any subject in the curriculum. He required no preparation--he'd been giving the same lecture for 20 years! And anyway it didn't much matter. He talked to the blackboard and was virtually inaudible.

Some years earlier the Chair of Anatomy in Edinburgh had been held successively by the Munro family, father, son and grandson, known respectively as Munro primus, Munro secundus and Munro tertius. Father and son were excellent but Munro tertius was a disaster. He taught by reading his grandfather's lecture notes and was once heard to say "When I was in Heidelberg in 1790", at which time his father had not been born. Not a good way to impress students.

During the 10 years that I spent in Edinburgh I did try one or two ways of improving university teaching. First I got the agreement of my staff that we should attend each others' lectures and then meet and criticize each other. This was certainly good for me--I learned, for instance, that I frequently missed out steps in an argument that seemed to me to be self-evident; I was told very firmly that for many students they weren't evident at all. I think it was good for all of us--but it was gradually abandoned as too much trouble.

Second I managed to persuade my professional colleagues in pathology and bacteriology that we should jointly offer a short course in immunology because I had discovered that some topics

were being discussed three times in mutually incompatible ways while other topics were not being discussed at all. We developed quite a good course but after two years there were no more meetings and I am sure that things rapidly disintegrated again. It was just too difficult to continue the project in an unsympathetic atmosphere.

I doubt whether things are any better in other British universities. In any case by 1968 I had almost given up hope of doing any more than making sure that my own teaching was as good as I could manage.

It was at this point of time that I was suddenly made aware of the fact that the Planning Committee of the Open University was looking for the first Vice-Chancellor. It was my son who discovered the advertisement in the Sunday paper. I should explain that I had never been involved in adult education; nor was I motivated by any sense of political egalitarianism. Furthermore I thought that the idea of getting a degree by watching the TV was probably bunk. But I answered the advertisement out of curiosity and was sent all the information that was available--which wasn't much. To apply one was asked to write a short account of what one thought the importance of the new institution would be.

It was this that started me thinking; and I wrote that I thought that, if one could write courses that were of such high quality that a student, working at home in isolation from other students and from staff, could be educated to the level of a graduate, one would inevitably have available materials that would, when seen on television and in book shops by the students

of conventional universities, lead to a demand for improved university teaching there. I saw distance education as a means of achieving this improvement; and I went so far as to say that, if this happened, it would not matter if the Open University never produced a graduate of its own.

They gave me the job!

When I try to analyze just what factors of distance education were critical in respect of their effects on university teaching, I suppose I come down in favor of the most important being the decision to take the responsibility for the design of courses away from the professors. This may not seem all that revolutionary to Americans but British and German colleagues will know very well that the system of university government was, in both countries, hierarchical and that what the Professor said was law. And all too often the main interests of the Professors were his research, his research students, and his final year honors students. He was concerned primarily with training the next generation of scholars in his own image.

This could be absolutely splendid for what Eric Ashby described as "the thin clear stream of excellence" among the students. But most students are not in that stream but in the broad sluggish muddy river of mediocrity--and for them the teaching was neither interesting nor pertinent. They need something different and many professors are not much interested in providing it. So we decided in the Open University that each course would be produced by a team of academics and experts in related fields--we invented the course team. At this point I should explain that in the UK one course is usually the

equivalent of 15-16 credit hours in the U.S. system. We don't have short courses of 3-4 credit hours. Thus a first year course in mathematics is usually not only an introduction to a second year course in mathematics; it may also have to be a service course for scientists, technologists and social scientists who must therefore influence its content and it would consist of a multimedia package of learning materials, so that radio and TV producers, editors and graphic designers would all play a part in the team. Finally, since there must be no errors of fact or ambiguities because there is no teacher to correct or interpret them; and since the isolated student must be made to realize whether he has understood or not, the materials must call for responses from the student at regular intervals. This is a highly specialized job and is done by educational technologists--nowadays sometimes called course designers. They, too, must be members of the team. Thus the team charged with a first year course in mathematics might reach as high as 20 members, for instance.

6 mathematicians
1 physicist
1 biologist
1 mechanical engineer
1 electronic engineer
1 psychologist
1 economist
2 educational technologists
1 radio producer
1 TV producer

1 editor

1 graphic designer

1 course assistant

1 secretary

20

One of the academic members, not necessarily the most senior, would be appointed the course team chairman. He was responsible in line to the Vice-Chancellor not only for the academic quality of the course, but also for ensuring that it was produced on time and within its budget. It was inevitable that the operation of a course team would raise all sorts of problems. Academic habits had to change. I remember meeting one of my professors in 1970. He looked rather depressed. I asked him what was the matter and he told me that the course team, of which he was not Chairman but was the senior academic member, had just sent him away to rewrite his module for the seventh time. He was the expert in the subject but he was not explaining it in a way that they approved as suitable for distance courses. The really astonishing thing was that he was going to do it!

The other thing that was inevitable in our distance education system was that there was a loss of academic freedom. There were two forms of loss. First there was an individual loss of freedom in that no single member of a course team could teach exactly as he pleased: he had to satisfy his colleagues. Second there was a loss by the whole team in that, since the materials would be open to view on TV, radio and bookshelves, they must not be so offensive to the politicians that the money supply to the

university was cut off. This is a serious limitation but an inevitable one. Fortunately there has been little pressure exerted by politicians on the Open University.

But if a large number of minds is devoted to deciding what to teach and how to present it, it is not surprising that the end result is a very high quality product. It is also, of course, a very expensive product and very large numbers of students must study the course in order to gain the economy of scale necessary to make distance education cheaper in cost per student than conventional face-to-face education. In the Open University our cost per student was about one-quarter to one-third that of the cost per student in conventional universities. But to maintain that advantage we had to have an average of 700 students study each course in each of 5 consecutive years.

It is also necessary to choose the medium of instruction with care. TV or video makes up only about 5% of the content of an OU course. It is not a telecourse in US terms. It is a ridiculously expensive way of giving lectures. One does not need to see a talking face. TV is vital only where there is a pedagogic reason for showing a moving picture. Otherwise it is an extravagance; and when used to show poor lecturers giving even poorer lectures it can bring the medium into total disrepute amongst academics. This, I fear, has happened all too frequently in the USA--perhaps because TV time is easily come by. As I have often said before "TV is unfit to be used improperly."

So much for the course team. Another factor that was critical to the effect of distance education, as developed in the OU, on university teaching was that there was no compromise on

the standard demanded of students who obtained credits in a course. To offer a second rate degree is to destroy the institution. Thus the examinations must be monitored by independent examiners and not left just to tutors in the university. This is vital to ensure credibility for a new method of education viewed by most academics with profound skepticism; and, of course, it is vital to the acceptance of new methods by conventional universities.

Nearly 20 years after the start of the Open University, most academics, as a result of scrutiny of a mass of evidence and as a result of a process of logical thought, know in their heads that distance-education works; but in their hearts many don't really believe it. They still believe that education only happens when two minds rub together. But how often does that happen in a large modern university? I remember in Edinburgh that a friend of mine, the lady who taught physical education, told me on the golf course of how she held beginners class in fencing. In January a girl came and registered for the class. She was in her third year of a degree course in the humanities. After the first session of the class my friend invited the girl for a cup of coffee and, while they were sitting in the cafeteria, she burst into tears. On enquiring, my friend discovered that this was the first time, in 2 1/2 years, that the girl had ever spoken to anyone in the university, staff or student. The loneliness of the long-distance learner can be matched by the loneliness of the conventional student!

I shall not weary you with descriptions of all the other things that must be done to develop a successful distance

education system. They are not particularly pertinent to the subject of this Conference. It is the materials themselves that are so pertinent.

"But," you are probably saying, "why are the materials so pertinent?" There are two main reasons. The first one, I already mentioned, is that these course materials were seen on TV, heard on radio, and examined in bookshops not only by OU students but by the students of every other higher education institution. This led to comparisons that can only be described as invidious. For the teaching that these students were getting was often very poor and it was not surprising that, after making comparisons, they should start to demand something better.

The second reason was, perhaps, even more significant. The course materials had been seen not only by the students but by the staff of other institutions; and it became very clear very quickly that they were being bought by the teachers and used as the basis for their own course design and course presentation. This fact was seldom, if ever, acknowledged publicly; furthermore in only a handful of cases were the students in these establishments asked to purchase the materials--so that most students were unaware that they were being offered OU courses and the sales to the OU remained small. But it <u>was</u> in fact proved by the appearance of one college prospectus after another where each course was described, module by module, with the titles of the units of the corresponding OU course.

Although commercially disappointing, this development was pedagogically gratifying. It meant, in our view, that the standard of teaching in a whole range of institutions was being

upgraded as a result of the introduction by the OU of distance education.

There are now more than 30 new national distance education institutions all over the world. Although I have little direct evidence, I have no doubt that they, too, are producing similar changes in the standards of the conventional institutions in their own countries. I know for instance, as an established fact, that in India, where I recently spent some time as a consultant, the Indira Gandhi National Open University has, as one of its legal foundation requirements, the duty of improving the standard of distance education in every state in the nation. This may be possible because the Act that created IGNOU provides that the financial support given to state open universities by the central government will be channeled through the Indian UGC but not through IGNOU, which will therefore be able to exert great pressure on them.

The success of the distance education mode in higher education has led people to look at its potential for lower level education. Schools of the Air have long been a feature of Australian education. A correspondence-based vocational college has been successful for many years in New Zealand. But such examples were rare before the 1980s. All at once, in the present decade, there has been an explosion of interest.

You will forgive me if I confine myself at this point to the story as it has emerged in the UK; for this is the only scene with which I am really familiar.

It is clear that, if teaching materials work well for students who are studying in isolation, they are almost bound to

be effective for students studying in conventional institutions with ready access to tutors. That they are not used in this way to any extent is a measure, on the one hand, of the resistance of the teaching profession (based on false pride and on a mistaken fear of redundancy) and, on the other hand, of the additional costs of adding such teaching materials to all the existing costs of the traditional face-to-face system.

In the UK it took government initiative to break down these formidable barriers. Obsessed as they were by the national need to improve technical and vocational training at the pre-university level, they came up with the splendid idea of founding an Open Technical College. Unhappily, as it transpired, they implemented it in the wrong way. They saw an organization similar to the OU as an over-centralized and very expensive luxury. Their concept for the Open Tech was of a small office that dispensed grants to institutions and companies that were willing to make courses of a vocational and technical nature. They distributed some L40 million grants for some 180 projects over the past four years.

Many of the projects were for simple written teaching aids to be used in a wholly conventional teaching situation in a technical college or in-house industrial training scheme. Thus high quality accounts of, for example, up to date computer science could be commissioned from really top level staff. These materials would enormously improve the local teaching by staff who were not experts. The general idea of our present government was that these materials would then sell to other interest users. But there were 4 problems:

1. There was no central control of standards

2. There were no qualifications of the OT

3. The materials were to be used in a variety of ways ranging from pure DE to a purely conventional college way.

4. There was no possiblity of sales of materials meeting the initiation costs.

The result has been that of all these materials, which have come to be known under the general title of "Open Learning" (OL), most are of a very low standard indeed, barely adequate as teaching aids in a conventional situation. Yet some are being used for Distance Education (DE). It is the confusion of DE with OL that worries me the most. The quality of effective DE material must be very high indeed. The quality of OL materials can be anything at all. Thus any effective DE material can be used for OL; but very little OL material will work in DE. But because it is cheap to make OL materials there is a continuous risk they will be used for DE--and poor materials will very rapidly bring DE into academic disrepute--especially among academics who are still, emotionally, not persuaded that DE can work.

The OT has thus failed to achieve its admirable objectives, but its very existence has made OL into a catch phrase. And, as I said, most of it is poor stuff. On the other hand some few institutions, like the OU and the NEC have developed pre-university DE materials of high quality in a few subject areas. These courses are intended for use as a contribution to the provision of continuing education (CE) and this leads me into another topic altogether.

For quite obvious reasons the last few decades have seen a very substantial growth in the need for CE. The rate of acquisition of new knowledge continues to accelerate and initial education (IE) becomes less and less adequate as a preparation for a lifetime's career. As is their normal practice the universities were quite lamentably slow to respond to the obvious need, but some change is now evident. My reason for bringing CE into the picture is very simple. I have already pointed out how resistant academics are to the idea of using someone else's courses. This, as I said, is due partly to false pride--the idea that "I can do it better than anyone else" or at least that "I want to teach my students my own views on the subject"--and partly to fear of redundancy. But in the case of IE--of courses leading to a first degree--there is another excuse for rejecting other people's courses. This excuse is based on a <u>real</u> difficulty, namely that of fitting a course that someone else wrote into a coherent pattern for other courses. For example, if you buy my course in second-year (sophomore) mathematics, it probably includes material that you have taught in first-year and it may well assume a knowledge of material that my first-year course included but is missing from yours. So if you were to adopt my course you might have to change some of your own courses quite considerably. This difficulty, the only <u>real</u> problem in using other people's courses, does not arise in CE; for here each course is self-standing and does not have to fit into an existing pattern. Furthermore such CE courses are often short; and they are often up-to-date products of highly specialized--and consequently scare--teachers. Thus many institutions and

academics are much more willing to acquire CE courses than IE courses.

This is actually happening nowadays on an increasing scale and especially in the third world; and the result is that academics are beginning to come to terms with this new idea. It is not DE--but it is the use of DE materials in an institutional setting. And this is, I believe, the first step towards a much more radical change that could eventually improve university teaching almost out of recognition. But it can only happen if high quality teaching materials (DE quality) are used. If OL materials are used there will never be a significant change. But if this new system became accepted, the way is open for the general introduction of teaching in universities by self-paced individualized instruction using course materials designed for DL but with the added advantage that the student is able, within an institution, to call for tutorial help at any time. And once self-paced individualized instruction is available using one course in, let us say, first-year chemistry, there is no reason why all the DE courses in first-year chemistry from all the institutions of the world should not be made available to the student. Modern technology makes this very simple. Thus for the first time it could be possible for the student to select his own teachers, being supported, whatever the choice, by his local tutors. When one considers how much evidence there is to show that different individuals learn by different methods, this new freedom of choice can be seen for the enormously important step forward that it could be.

My vision of the future shape of a university is thus a place where each student has his own work station. Here there will be written instructional materials plus all the equipment required to gain access to video or interactive video course material or audio material from a central national library. A computer terminal will allow programmed control of interactive video, coupled with access to databases, including bibliographical ones. Practice in skills will be provided in the local laboratories or workshops with demonstrations available on video. Tutors will be on call for help, explanation or discussion. The job of a tutor in the new circumstances will be very much more interesting and demanding than that of the current university lecturer. The potential for student development will be quite enormously enhanced.

I do not think that universities should operate by DE. There are too many other things that school leavers can and should learn at university by mixing with their peers. Open universities are only a complementary provision for those who cannot attend conventional universities. But I do think that in all universities DE techniques, applied in an institutional setting, have the capacity to produce quite staggering improvements in university teaching.

Thank you.

DISTANCE EDUCATION: THE PROMISE AND THE CONFUSION!

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Introduction

There is much confusion about the role of telecommunications and instructional technology in distance education. Because of this confusion, the same fundamental error is made over and over again. All too frequently, those thinking of using telecommunications systems to serve distant learners begin to focus their attention on telecommunications systems before thinking carefully about the clients to be served and the nature of the programs to be delivered. As a result, large amounts of money are wasted, and civic and governmental leaders as well as potential clients are disappointed and become so disillusioned that any mention of "distance education" or "telecommunications" is greeted with derision. A case study to understand the nature of this confusion might be helpful.

A Case Study

Some six or seven years ago, the State of Alaska decided to create a statewide telecommunications system that would deliver university, secondary and elementary programs and courses to Alaskans scattered in small communities throughout the state, outside of the three major urban areas--Anchorage, Fairbanks, and Juneau. Low-powered television transmitters, each with its own satellite down-link, were to be located in more than 150 small

communities. A major television production facility and a satellite up-link were to be established in Anchorage, along with an electronic bridge for audio-teleconferencing.

The ostensible rationale for the creation of this system was that Alaskans, living in rural areas (particularly Native Alaskans) needed access to high quality educational programs at all levels that could not be provided economically any other way. The programs and courses were to be either produced in Anchorage or acquired and televised to these communities. The audio teleconferencing network was used to provide individuals watching the television programs with the opportunity to ask questions and to discuss the educational materials they had seen on television. It was also to be used for courses that would be taught using only the audio conferencing system.

The State of Alaska invested approximately $30 million in the purchase and installation of the telecommunications equipment and ancillary facilities needed to create the Learn Alaska Network. The University of Alaska created the University of Alaska Instructional Telecommunications Consortium (UAITC) to operate the television system on behalf of the University and the State Department of Education, and UAITC began to function in 1982. This year, because of declining state revenues, a decision was made to close the Learn Alaska Network. One of the reasons the Network is being closed, apart from declining state revenues, is that it was not carrying out effectively the functions for which it was created.

Given the way in which the Network was planned and operated, it was doomed from the beginning to fail. In my view, it failed for the following reasons:

1. There were only about 30,000 Native Alaskans scattered throughout the state. There were not enough people in the intended audience to justify the creation and programming of a sophisticated television based distribution system;

2. Somewhat more than $200,000 was provided annually to program this $30 million system. This amount of money was far too small to support much of the original program production and most of the programs were acquired from the lower 48 states. Thus, much of the programming thus had little relevance to the Native Alaskans for whom it was ostensibly intended;

3. The people in charge of the Learn Alaska Network saw their role primarily as that of programming a public broadcasting station similar to those operated in the lower 48 states rather than that of running an educational services delivery system intended to help their clientele improve and enrich their lives through the acquisition of new knowledge, skills and attitudes; and

4. A good deal of time, energy and resources were wasted because of feuding within the University of Alaska system over which unit of the system would control the Learn Alaska Network and how the $200,000+ available for programming each year would be divided among the units of the University.

This Alaskan case is, then, almost a classic example of the consequences of focusing on telecommunications technology almost as an end unto itself rather than as a means to serve a particular client group. A thoughtful planning effort, completed before a decision was made to go ahead with creation of the Learn Alaska Network, would have shown that the approach taken was not feasible economically, particularly if one added to the $30 million capital investment, the size operating budget it would have taken to develop and deliver effective distance education programs that used television.

In planning a telecommunications based distance education program, one should answer a number of key questions before deciding what type of technology to use to deliver the program.

Planning Questions

I. Who are the clients?

   A. What are their social, economic, cultural and demographic characteristics?

   B. How many of them are there?

   C. Where are they located?

II. What specific problem or problems do they face that the distance education program being considered will help them resolve?

III. What type of distance education program(s) will help them resolve the problem(s)?

   A. Level

   B. Formal/Non-formal

   C. Objectives

   D. Content

   E. Assessment mechanisms

   F. Record keeping

   G. Counseling and other student support systems

IV. Who will develop and deliver the program?

   A. A new organization

   B. An existing one

V. What existing means are available for distributing the programs and providing for feedback and questions?

   A. Telephone, microwave, satellite

   B. Radio

   C. Television

   D. Instructional technology (i.e., computers, telewriters, facsimile)

E. Postal service (for print material) or other distribution system

F. Personnel qualified to have contact with students at group distribution sites

VI. If a totally new telecommunications system must be created, what geographic and climatic considerations must be taken into account?

VII. Given the characteristics of the intended clientele, the content, and existing telecommunications systems, which mix of media will be most appropriate (efficient and effective)?

VIII. How much money will be required?

A. For Capital

1. To expand existing systems or construct new ones

2. To purchase and install equipment

3. To construct buildings and other facilities

B. For operating expenses

1. To develop a continuing supply of educational software.

2. To operate the system

a. Technically
b. Programmatically
c. Repairs and maintenance
d. To develop integrated programs (i.e., curricula, degree and certificate programs)
e. Evaluation
f. Security

3. To pay for student support systems and services

a. Tutorial help
b. Counseling
c. Assessment
d. Record keeping and certification
e. Library materials and laboratory supplies

IX. What will the source or sources of funds be?

A. Government

B. Private organizations

C. Students (tuition)

X. How long will it take to plan the project and implement it?

XI. What contingencies need to be taken into account?

Use of The Planning Model Would Have Altered Alaska's Plans

If those charged with planning the Learn Alaska Network had merely answered question "I" above, they would have discovered that the capital cost of the system per Native Alaskan was $1,000. Moreover, if they had also realized that a low average hourly cost for programming such a television system would be about $2,500, they would have determined that ten hours of programming per day, 365 days per year would cost $9,125,000 or an additional recurring cost of $304 for each Native Alaskan. This would have led them to conclude very quickly the cost of using television to provide distance education for the intended clientele was much too high and could not be justified economically.

Having arrived at such a conclusion, they could then have urned their attention to other much less expensive ways of eaching the intended audience. An audio system alone, for example, or in combination with some form of facsimile or mini-computer designed to transmit print materials might have been much more economical and efficacious than the television system that was actually installed.

Suppose, however, that the planners and the state officials had decided, on the basis of the analysis, that the $1,000 capital cost per Native Alaskan was bearable and that providing these people with quality distance education programs was so

important that the state would create the Learn Alaska Network. (This is, in fact, what happened, but without the analysis.) The knowledge that the state would not provide much more than $200,000 annually to program the system should have doomed the entire project before the first dollar was spent on the acquisition of equipment.

The failure on the part of governmental officials and educational leaders to realize that the development of high quality distance education programming to be delivered via television is an extremely expensive recurring cost item was a key problem. Without a willingness to provide regular funding for this purpose, there was little point in going forward with the installation of the telecommunications equipment and other facilities.

This failure to realize the importance of providing funds for the creation of high quality distance education software is, all too often, the key problem faced by those who wish to serve distant learners using telecommunications systems. It is important to understand why distance educators face this problem over and over again.

The Reason Why Funding Sources Fail to Realize the Importance of Funding Software Development

Most of us with degrees, diplomas or certificates have a lifetime's worth of exposure to courses taught in traditional ways. We have an implicit model in our minds about the nature of the educational process. We think educators do essentially the

same things regardless of the level at which they teach: they plan the course; present material and make work assignments; stimulate and motivate students; assess how much the students have learned; report the results of their assessment to a central record keeper and to the students; and, most important, they provide an example for the students of the way authority figures behave toward students and toward one another.

Teachers and faculty members generally develop their own courses on an individual basis. Apart from an occasional summer grant to support a university faculty member while he or she develops a new course, there are no major costs associated with the work. Most new courses are developed as they are taught. Teachers and faculty members are paid a single sum of money to develop and deliver a course.

Given these assumptions about the nature of instruction, is it any wonder decision makers think all they need do is construct a telecommunications system and it will effectively transmit whatever goes on in the classroom? Little or no additional preparation, planning or money is needed, according to this model, once a telecommunications system is in place. Thus, these assumptions lead key decision makers to fail to recognize the software problem.

The Software Problem

If one is serious about serving distant learners, one needs to think about offering entire degree or certificate programs, and the cost of developing such programs must be considered and

provided before plans are made to construct the system. One cannot expect students to enroll in a single course unless they have a firm assurance there will be a complete program for them in which to enroll.

In the United States, the average bachelor's degree program consists of 40 three credit courses. The average bachelor's degree program in Canada usually includes 30 three-credit courses. Thus, if one were planning to offer a complete telecommunications-based distance education bachelor's degree program in either country, it would be necessary to include in the annual operating budget funding for the development of approximately five courses per year for eight years in the United States and for six years in Canada. Moreover, because courses become obsolete, one must include regular provision for course revision as well as new development. This means that the annual budget for course development and revision will remain relatively constant (with provision for inflationary increases) over time.

The cost of developing an individual course varies greatly depending upon the form or forms of technology to be used for course delivery, the other components of the course (e.g., print materials, laboratory kits, micro-computers, and tutorial sessions), as well as the course development model one uses.

While the variation in costs between various forms of technology are self-evident (high production value broadcast television and interactive video disc are, by far, the most expensive forms of software and audio is one of the least expensive forms), the course development model used is also an

extremely important cost factor. Let me use three examples to illustrate the wide range of differences in current practice.

The British Open University (BOU), one of the most successful and sophisticated distance learning organizations in the world, typically uses a team approach to develop its extraordinarily high quality courses. The BOU pays a team of six or seven faculty members, most of whom are full-time, regular members of the BOU faculty, a television producer, and other support staff for two full years to develop a single course. These courses, of six months' duration, carry approximately 15 American or Canadian credits. The cost of developing a single BOU year-long course is often more than $2 million (U.S.).

In British Columbia, the Open Learning Institute (OLI) spends from $7,000 - $15,000 (Canadian) to develop a single, three-credit, semester long course. OLI has no faculty of its own and usually contracts with a single faculty member, employed full-time by one of the three traditional provincial universities, to write a course.

Three credit, semester-long telecourses produced in the United States frequently cost between $500,000 and $1 million each. The BOU courses frequently include expensive television and radio components and very elaborately produced print materials. Typically, the OLI courses have included only well done, but not elaborate, print materials. Traditional American telecourses usually include 30 half-hour television programs that convey up to 60% of the academic content, with the rest of the content covered in a textbook and student guide.

The BOU and OLI approaches to course development are cost effective given the numbers of potential students to be served. The BOU serves a nation with a population of more than 50 million people while the Open Learning Institute delivers distance education programs to a province with a population of about 4 million. It is doubtful that the American approach is cost effective except for a very small number of courses that enroll many thousands of students.

Here it might be helpful to project the cost of developing a single, complete distance education bachelor's degree program in the United States and in Canada, using the BOU, OLI and American telecourse approaches to course development. Remember that the U.S. baccalaureate degree program consists of 40 three-credit courses and the Canadian 30 three-credit courses. The cost of a fifteen-credit BOU half-year course is $1 million, half of what it costs to produce a year-long course. It costs OLI $15,000 to develop 1 three-credit course, and the traditional American 30/30 telecourse costs more than $500,000.

Estimated Cost of Developing Full U.S. and Canadian Distance Education Bachelor's Degree Programs Using the OLI, BOU, and American Course Development Models

	U.S. Degree 40 three-credit courses (120 credits)	Canadian Degree 30 three-credit courses (90 credits)
American Model	$500,000 = $20,000,000	$500,000 = $15,000,000
OLI Model	$15,000 = $600,000	$15,000 = $450,000
BOU Model	$8,000,000	$6,000,000

Note: Each BOU semester-long course is worth approximately fifteen U.S. or Canadian credits.

These figures illustrate quite clearly why it is so important for decision makers to understand the critical importance of including in their plans for telecommunications-based distance education programs regular funding for the development of software--support at a level that is feasible economically, given the population to be served and the nature of the program to be delivered.

In addition to the software problem, another major issue frequently confronted by those who seek to plan telecommunications-based distance education programs is whether or not to attempt to use existing television and radio broadcasting stations to transmit the electronically mediated portions of their courses.

Broadcasting Stations vs. Educational Delivery Systems

Broadcasters, particularly in the Western industrialized nations, generally share one primary goal: to attract the largest possible audience to view or listen to their programs at all times. They emphasize delivering high production value programming that will compete successfully with other activities for the attention of the audience. While broadcasters of commercial programming and their advertisers expect as many members of the audience as possible to purchase the products being advertised, viewing television programs or listening to radio broadcasts are passive activities.

An educational services delivery system (ESDS) generally has objectives much different from those of a broadcasting station. The goal of an ESDS is to help narrowly defined groups of leaders acquire new knowledge, attitudes and skills for future use. The most effective distance education programs involve students actively in the learning process.

Broadcasters are reluctant to provide time for educational programming unless it has high production value, is attractive, entertaining and has the broadest possible audience appeal; distance educators, wishing to serve more narrowly defined audiences, frequently are less concerned about aesthetic quality than pedagogical content. Since broadcasters control their stations' programming, distance educators wishing to deliver educational services, may not find broadcasters receptive unless the distance education programs to be offered have high production value, are attractive and have broad audience appeal.

Because of this fundamental difference between broadcasters and educators, it is generally an error to put distance education programs under the control of broadcasters or broadcasting organizations. When they are in control they emphasize the things that are important to them, neglecting the academic integrity of the programming and the curriculum in favor of high production values.

One of the reasons for the failure of the Learn Alaska Network was the people in charge of the system saw it as a public broadcasting station rather than an educational services delivery system--and then programmed the network accordingly.

In closing this paper, let me emphasize the key point made in the introduction. One of the primary reasons many telecommunications-based distance education programs have failed is the all too frequent focus on telecommunications qua telecommunications and the consequent failure to consider and plan specific distance education programs before deciding on what telecommunications system to use.

Unlike many railroads, which were built on the assumption they would generate traffic, educational telecommunications systems will not generate use simply because they exist. Educational and academic program decisions should dictate the nature of educational telecommunications systems.

DISTANCE EDUCATION : THE 'NEW FRONTIER' OF LEARNING?

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ABSTRACT

The claim is made that the most consistently good university teaching is likely to be found where the methods and media of a well-planned and operated distance education system are employed. Effective distance education demonstrates responsiveness to the needs of individual students and seeks, through a blend of independent study and interactive communication, to develop an *interdependant* student.

The paper explains that this philosophy of learning at a distance is implemented through an infrastructure that may include either a team approach to course development or specialist personnel to assist academic staff in acquiring the necessary skills and expertise to design their own distance education courses. When these skills are developed for distance teaching in a dual-mode university (as in Australia) the 'spill-over' effect on internal teaching can be extremely beneficial because distance learning material and delivery systems can be effective for conventional students on campus.

Distance education can represent a positive challenge to improve traditional teaching or it can be perceived by academics as a threat. Staff development procedures must, therefore, be sensitive to concerns and attitudes of individual staff members who may feel 'de-skilled' by finding that their previous teaching experience is inadequate.

Whilst both systematic course development and staff development strategies are necessary elements in distance education, they need to be complemented by an efficient and sympathetic student support system if the total teaching/learning process is to function effectively for the distance student.

In the final analysis, there is much to be gained for university teaching *per se* if conventional teaching methods in universities were supplemented by, or integrated with, the more individualised, flexible and learner-oriented techniques of distance education.

DISTANCE EDUCATION : THE 'NEW FRONTIER' OF LEARNING

Kevin Smith
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> *"It is the growing awareness that learning and not teaching is the decisive factor in education which has brought support to distance education."* - Ann Hanson

This quotation is taken from an article in the January 1984 **ICDE Bulletin** (a journal of the International Council for Distance Education), entitled "Can a True University Education be achieved at a Distance?" I believe it can and so does Hanson who argues that if the aims of a 'true' university education are to develop in students the capacity to think for themselves such aims can best be met if emphasis is put upon the learner learning rather than the teacher teaching. And this is exactly the emphasis that characterises good distance education.

In this paper I wish to submit the claim that not only can a true university education be gained at a distance but some of the best, and certainly the most consistently good, teaching in higher education is likely to be found where the methods and media of a well planned and operated distance education system are employed.

We all know that one of the best kept secrets of universities over the centuries (in Europe) and decades (in Australia) is the poverty of much of the so-called teaching which takes place on campus. There is no doubt in my mind that in the dual mode universities in Australia, where academic staff as part of their normal responsibilities teach in both conventional and distance modes, on-campus students benefit from the systematic approach to teaching that distance education requires of academic staff. In short there is a 'spill-over' effect from the unconventional to the conventional. Whilst I am not suggesting that good teaching per se can exist only where there is distance teaching, I believe that much could be gained if academic staff in conventional universities generally were to be made more aware of the theories and practices of distance education and took positive steps to incorporate some of these techniques into

their own teaching. Indeed, just as some distance education systems in the past have developed by trying to simulate for their off-campus students the learning experiences of on-campus students, now I think it is time for the reverse to happen where we see the use of interactive and structured course materials in various media (print, audio and video) being offered as a genuine alternative to the more passive learning situations that are experienced so often by internal students in the traditional lecture situation.

A Paradox

Before I attempt to substantiate my claims I wish to draw attention to the fact that the history of distance education gives an Australian like myself some legitimacy in standing here today on the occasion of the University of Heidelberg's 600th Anniversary.

About a year ago, last August to be exact, the 13th ICDE World Conference was held in Melbourne, Australia. It was attended by over 600 delegates from 50 countries but half of those present were Australians. This large proportion of Australians reflected the 'longstanding' tradition of distance education in my country at all levels, from correspondence schools to universities, although for me to talk of longstanding traditions measured in decades rather than centuries on the occasion of the 600th Anniversary of the founding of the University of Heidelberg may seem almost presumptuous. On the other hand, being free of longstanding educational tradition (as Europeans would understand the term) may partly explain why Australians, Canadians, Americans, New Zealanders and others who can be said to represent former European colonies have something of a reputation for seeking novel solutions to educational problems which our unique or particular 'frontier' environments created.

At the Melbourne Conference, the keynote address or Broady Lecture (named after an American pioneer in distance education and former President of ICCE, Knute O. Broady) was given by an eminent Australian historian, Professor Geoffrey Bolton. Professor Bolton pointed out an interesting paradox about distance education in the following terms:

> "...Distance education may be seen as one of those innovations which was forged on the frontier of European expansion overseas; ... the history of distance education is to a considerable extent an example of the process by which ideas and techniques developed on the periphery have gradually been accepted and absorbed into the old heartland of European culture. Beyond that, there will be a further chapter unfolding as Non-European societies observing this process adapt and modify it to their own needs". (Bolton 1985)

The 'ideas and techniques developed on the periphery' have certainly not been accepted 'into the old heartland of European culture' without some adaptation. Indeed the concept of large-scale open universities as we know them in the U.K., West Germany, Spain and more recently, The Netherlands, are a far cry from the dual-mode small-scale institutions which characterise the Australian scene. Furthermore, countries around the globe, including Australia, have learnt much from these European models for adaptation to our own contexts so the learning experience has been in two directions. This is a good thing. Nevertheless, the theories and practices of distance education, 'the new educational frontier' represent something of a challenge, and to some a threat, to traditional face-to-face teaching, which Bolton would regard as a manifestation of 'the old heartland of European culture'.

We should bear in mind, though, that the dichotomy between on-campus and off-campus teaching and learning is more imagined than real and this trend towards convergence of the two will accelerate as communication technologies become an increasingly prominent feature of both modes of teaching.

Let me now turn to two basic questions that need to be addressed for those not familiar with the concept and practices of distance education:

1. What is distance education?
2. What determines its effectiveness?

Distance Education and Effectiveness

From several definitions of distance education, Keegan (1980) has identified six main elements:

- the separation of teacher and learner which distinguishes it from face-to-face lecturing
- the influence of an educational organisation which distinguishes it from private study

- the use of technical media, usually print, to unite teacher and learner and carry the educational content
- the provision of two-way communication so that the student may benefit from or even initiate dialogue
- the possibility of occasional meetings for both didactic and socialisation purposes
- the participation in an industrialised form of education which, if accepted, contains the genus of radical separation of distance education from other forms.

The first four of these could be regarded as essential elements in distance education, the fifth optional and the sixth even more debatable. The concept of distance education as "the most industrialised form of education" is one that has been developed by Otto Peters (1971). He emphasised such concepts as division of labour in the teaching process, automation, scientific control, mass production and centralisation. While it was well suited to the 1970's which was a decade of large-scale single mode 'open universities', it does not fit so comfortably with the notion of small-scale dual-mode or integrated models, especially where academic staff continue to assume full responsibility for the total teaching/learning process including course design, marking of assignments, other forms of interaction with students and assessment.

This definition can be fleshed out a little if we consider what Gough (1980) suggests for an effective distance education system:

- a sound philosophical basis;
- an appropriate organisational structure;
- adequate resource allocation;
- the use of specialised educational techniques in designing learning experiences, writing self-instructional materials, developing appropriate teaching strategies, and providing adequate student access to learning resources;
- production processes that allow learning materials to be published in pedagogically sound and attractive format using audio, video and print as appropriate;
- an efficient course delivery system in its widest sense, including the development of an effective support system to meet the needs of students at a distance both before enrolment and as enrolled students;
- programs for staff training and development; and, finally,
- evaluation and monitoring procedures to improve the system.

Of these elements, I would like to comment especially on philosophy, course development and staff development.

A Philosophy of Learning

A sound philosophical base is indeed the cornerstone of any educational system and fundamental to an educational philosophy is the question: "What kind of learner are we hoping to produce?" At the university level, at least, I would suggest that we should be aiming at developing learners who are neither too dependent (on the teacher) nor completely independent. It should be our objective to help students recognise their own strengths, skills and needs, trust their own energies and intuition, deal with confusion and ambiguity, clarify what they want to learn and be able to relate to others in group situations. We should be trying to produce interdependent learners, learners who enjoy a certain amount of autonomy in choosing their learning strategies (including when and where they study) and who are expected to interact from time to time directly with academic mentors and fellow students. Consequently there should be no conflict in this respect between the aims of distance education and traditional face-to-face teaching.

The real dilemma for designers of distance education courses lies in the fact that if a course is designed and structured so meticulously that learners have no choice in what they learn or how they should learn it, then at higher levels of education especially we can be criticised for inhibiting creative thinking and critical analysis. If we do attempt to provide the complete learning package that is to be digested in modules "to be taken as prescribed", then we need to be aware of the possibility of two negative consequences: firstly, students may be conditioned to accepting whatever we prepare for them as the last and only word on the matter concerned, without searching beyond the course material for other analyses and interpretations; secondly, we may be ignoring the fact that students themselves (especially mature age students with rich and varied life experiences) can inject something very positive into a course given some freedom of choice in their sources of information and learning strategies. Of course, this dilemma is not peculiar to distance education. The same negative consequences can occur in badly designed and taught courses offered on campus.

In general, distance universities produce teaching material packages that are designed to stimulate an active response on the part of each student. In this sense, one might talk about individualised learning, for each student will respond to teaching strategies in a personal and idiosyncratic way. Certainly, much of our learning whether on-campus or off, takes the form of internalised dialogue or private reasoning. But at the same time, some universities like mine consider it desirable for students to have opportunities for interacting not only with course materials but with other people including tutors and other students. For this reason, the question of a blend of independent and interactive learning is important in designing a university level distance education course.

Interactive elements can take many forms and do not necessarily imply face-to-face meetings. Daniel and Marquis in a paper called "Getting the Mixture Right" (1979) use the term to cover "those activities where the student is in two-way contact with another person (or persons) in such a way as to elicit from him (sic) reactions and responses which are specific to the student's own requests or contributions". Interaction over tele-communications systems would clearly qualify on this criterion as would the more obvious elements of personal contact, of tutoring and counselling, discussion groups, residential and weekend schools and staff visits to students in their home areas.

Summing up then, course materials should be designed and delivered in such a way that the learning process is as rich and stimulating as it can be for the individual student. For most of us, 'putting the student first' probably means in practical terms finding ways of delivering a product that is essentially designed for a hypothetical 'average student' but is able to meet the needs of individual students, including those social and psychological needs that impinge upon their learning environment.

Whilst the quality of distance education can be as variable as that experienced on campus, there are several factors which provide a unique stimulus to improvement and innovation in distance education.

Firstly, the substitution of print and electronic materials for face-to-face teaching creates a permanent record of instruction which also becomes public. This visibility subjects learning materials to the scrutiny of academic peers in the home institution and elsewhere, to administrators, students and the curious in the community. Secondly, refinement of methodologies is more likely to be an ongoing process in distance education because many of the students are mature and confident enough to provide critical feedback to their academic mentors when they detect deficiencies in the presentation. Furthermore, there are usually course development advisers or instructional designers available to assist content specialists, examples of 'good' courses are readily available for perusal and possible adaptation, and collaboration among academic staff (either individually, in teams or between institutions) is more common in distance education than in conventional systems. Finally, the challenge of using communication technologies to diminish the 'distance' between teacher and student is a further stimulus to change and innovation.

Putting Philosophy into Practice

Asserting that learning at a distance can be achieved at a high level is one thing. Making it happen is another. In this context, there has to be a different infrastructure to ensure that course materials and delivery systems reflect the special needs of students who are usually remote from a classroom or regular direct access to a teacher. Secondly, there needs to be a planned response to the needs of academic staff to develop new skills required for teaching at a distance. Thirdly, there has to be an effective administrative system of student support.

1. Course Development in Distance Education

As I have already asserted, developing course materials for distance learners at the university level must take into account the need for a balance between independent and interactive learning situations. Such materials (the product) can be designed so that students are encouraged to engage in critical debate within themselves and the presentation or delivery of these courses (the process) can be so organised that opportunities for interaction or dialogue

with others are created. Designing course materials in a variety of media (print, audio or video, for example) calls for skills and experience that are seldom to be found in one person such as a subject or content specialist - the traditional academic who has generally experienced only a face-to-face form of education. Consequently, such specialists require the support of others to focus attention on the needs of distance learners who, unlike traditional full time university students, are likely to be of mature age and have a diversity of educational backgrounds and life experiences, study on a part-time basis and face a host of other commitments including work, family and community service which compete for their scarce time. Such adult learners are also generally capable of self-direction and regard teaching and learning as a reciprocal process that respects the mutual contribution of both parties. To ensure such support there has to be a place for educational 'technicians', who perform the function of instructional designers or course development advisers, the former emphasising the principles of course design in the light of learning theory, the latter more concerned with developing positive attitudes and new skills in academic staff who find themselves responsible for developing courses in an unfamiliar mode.

In more specific terms, what do we expect to find in a 'good' university distance education course? The following questions suggest what some of the essential elements might be:

- What are the objectives of the course?
- What kind or level of learning is involved?
- Are the learning activities in an appropriate sequence?
- Is the material structured to provide clear direction, encourage student activity and cater for individual differences? (Here we might expect to consider such items as advance or preliminary organisers, in-text questions, self assessment exercises, enrichment or remedial sections, etc.)
- Which media are to be used and why?
- How 'readable' is the material? (Style and tone are important).
- Does it provide for two way communication?
- Will there be opportunities for personal contact
  - a) with tutor?
  - b) with other students?
  - c) with both simultaneously?
- How will the student be assessed?

- What support systems can the student call upon?
- What evaluation procedures are there?

Broadly, these questions are posed to ensure that we consider students as individuals needing direction but also needing to be given scope for initiating personal learning strategies with which they are most comfortable or secure. Achieving this ideal through a well-designed product in the form of course materials supported by a dynamic interactive process of communication between teacher and student at a distance is no mean feat. The following blunt comment from two of my ASPESA colleagues emphasises the challenge it represents for most academics:

> "With the emergence of instructional design it has become increasingly evident that the subject matter experts in the various disciplines do not know how to teach. Add to this the public dimension of distance education, which demands that such experts emerge from the privacy of their own classrooms and display their teaching abilities to a wider audience, which includes their peers as well as their students, and it is not surprising that many teachers involved in distance education feel threatened." (p. 279)

This 'threatening' situation has to be clearly understood by those responsible for academic staff development if they are to have any chance at all of succeeding in their professional role of effecting positive changes in academic attitudes to the new challenge of distance education. It is to the question of staff development that I now turn.

2. Staff Development

There exists today an interesting variety of distance education models most of which are represented in the membership of the International Council for Distance Education. I cannot describe them in detail here but in a brief article I wrote for the first issue of the journal **Distance Education** (Smith, 1980) produced by the Australian and South Pacific External Studies Association (ASPESA) entitled "Course Development Procedures", I identified several different course development models:

a) the course team model
b) the author/editor model
c) the author/faculty model
d) the educational adviser model

All the models have one thing in common: there is a role for instructional design in some form or another and there is a sharing of expertise in a 'team' situation, albeit that at times the team may be as small as two people. We are all familiar with the single mode institutions, the 'open universities' as they are now generically known (since the UK Open University provided a model for others to follow or adapt). Most have adopted a course team approach concentrating skills in the hands of a highly qualified group of specialists including subject experts, audio and video producers, graphic artists, editorial staff, educational technologists and instructional designers. There is, however, an alternative model of a distance education institution, the dual-mode university, where academic staff have responsibility for teaching both on-campus and off-campus students. My university and the other four distance education universities in Australia (Queensland, Macquarie, Murdoch and Deakin) operate in such a way. In a dual-mode situation, the course development personnel see their roles not so much as contributing directly to the design of a particular course to which several specialist contributions are made but rather to developing instructional design skills in the academic staff or subject specialists themselves. This role of personnel enhancement rather than materials enhancement brings with it a separate set of challenges for those responsible for effecting changes in attitudes and skills of the academic staff concerned.

There is no doubt that distance education or the off-campus teaching mode represents a major innovation for the majority of university academics in several ways: in terms of academic lifestyle, in teaching methodology and in new areas of responsibility and accountability. Teaching becomes a 'corporate' enterprise rather than an individual one; there is a feeling that a process is being bureaucratised. The subject specialist, instead of being the only cog in the teaching chain, becomes one of many cogs. There are unfamiliar institutional expectations that the teaching act will be preceded by a careful analysis of the teaching process (as outlined previously) and that an undue emphasis on product, as manifested in the preparation of course materials, may

diminish the importance of teacher-student relationships. Teaching becomes highly visible and performance is to all intents and purposes 'monitored' by outsiders, such as academic peers, distance education administrators and the general public.

It follows, therefore, that any attempt to develop materials for distance teaching must be related to the individuals involved in the innovation. The changes described above constitute a threat to the ego, challenge previous training and appear to impinge on one's autonomy or academic freedom. Even more, the changes may be perceived as 'de-skilling' the academic by rendering previous experience inadequate or even irrelevant. So what are the implications for a staff development strategy?

Ed. Scott (1981), in a paper presented to the Fifth Biennial Forum on External Studies of ASPESA in Fiji in 1981, drew attention to the relevance of the Concerns Based Adoption Model (CBAM), a model developed by Hall and others at the Texas Research and Development Centre (1979). The model suggests that when faced with a proposed change, academic staff will exhibit characteristics which can be categorised for the most part into one of seven 'Stages of Concern', beginning with Self Concerns, moving more positively into Task Concerns and ultimately into Impact Concerns. This is illustrated in a course development context below:

STAGES OF CONCERN		EXPRESSIONS OF CONCERN
IMPACT CONCERNS	6 REFOCUSSING	• I have some ideas about something that would work even better.
	5 COLLABORATION	• I am concerned about relating what I am doing with what other academics are doing.
TASK CONCERNS	4 CONSEQUENCE	• How is my use (of the innovation) affecting the students?
	3 MANAGEMENT	• I seem to be spending all my time in getting material ready.
SELF CONCERNS	2 PERSONAL	• How will using it affect me?
	1 INFORMATIONAL	• I would like to know more about it.
	0 AWARENESS	• I am not concerned about it (the innovation).

Hall's Stages of Concern

The implications for a staff development strategy then can be summed up as follows:

1. Recognise that a change to an unfamiliar teaching mode affects human beings who have effectively been 'de-skilled'.
2. Accept as legitimate the self concerns of individuals worried about the personal impact upon them.
3. Recognise that staff development programs need to be highly adaptive and patterned according to the developmental stages which individual academics, departments or faculties have reached.
4. Acknowledge that because of the human factor any change will rarely end up being what it started out to be or how the staff developer or instructional designer initially perceived it.

With such a human approach to staff development, productive working relationships can be created to improve one's teaching as part of a team.

Most importantly, when these new skills are acquired for distance teaching in an integrated or dual-mode university, the spillover effect on internal teaching can be extremely beneficial. In many cases, learning materials prepared for distance students are equally effective for on-campus students. So too, the search for appropriate models for distance education course delivery has generally encouraged a greater rate of acceptance and adaptation to interactive information technologies and stimulated the transference of these new skills and techniques to on-campus instruction.

3. Student Support

In this paper I have concentrated my attention on academic aspects of distance education. But before I close may I remind you of Gough's other elements that are essential to an effective learning system for off-campus students. They are, in the main, concerned with the provision of organisational and administrative support, without which neither the most sophisticated course materials nor skilled and dedicated academic staff will be able to function effectively. It is not appropriate to elaborate on this aspect here but I should like to leave you with the final words with which I concluded an article a few years ago. They still apply today and will, I believe, always be valid:

> "Developing a 'good' course is only phase one of the total teaching-learning process. Institutions which put all their energies and resources into instructional design and ignore the need for extensive student support services will surely find that even the good courses lose their students at a rapid rate. A well designed course is an essential beginning but the dynamics of communicating effectively at a distance must also be mastered if the total external studies system is to function effectively." (Smith, 1980)

Conclusion

I should like to close by drawing your attention to several apparent paradoxes associated with distance education. Firstly, as Geoffrey Bolton has pointed out,

> "the history of distance education is ... an example of the process by which ideas and techniques developed on the periphery have gradually been accepted and absorbed into the old heartland of European culture."

Secondly, it is now reasonable to claim that where 'the old heartland' and the 'new frontier' coexist in one integrated university, it is the new frontier represented by distance education that is likely to exert the most influence on improving teaching because of its more visible public profile, a systematic approach to the teaching process and the stimulus that exists for innovation.

Thirdly, it can also be claimed, at least at the undergraduate level, that well designed and delivered distance education courses can provide greater opportunity for individualised learning and 'quality control' of that learning than is likely to occur in large classes where lecturing on a mass scale rather than small group situations is the norm.

Historically, distance education has demonstrated responsiveness to the needs of the individual learner and therein lines much of its claim to success. Perhaps, therefore, the critical question to be asked is not so much, "Can a true university education be achieved at a distance?" but rather, "How more effective could university teaching be if face-to-face teaching were supplemented by the more individualised, flexible and learner-oriented techniques of distance education?"

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TEACHER TRAINING: A CHALLENGE TO THE UNIVERSITY VIEW OF TEACHERS' ORGANIZATIONS

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ABSTRACT

University--which is a place for reflection about the world, sometimes outside the world--is today faced with numerous challenges. Enlargement of the area from which new students are recruited while credits are cut back, requirements of professionalism, instrumentalism and yield, together with new mandates in regard to teacher training--all these make it necessary to review in depth the practices of university education.

In the course of history, a teacher, if not a priest, has sometimes been considered as a slave, later a priest's auxiliary before becoming the promoter of the republic, as indicated by the French word "instituteur."

Today, the teachers' organizations, with the support of UNESCO and ILO, are calling for every teacher to have the status and training of a professional while recognizing his status as a worker and wage-earner. In addition, these organizations recognize the unicity of the teaching profession--from nursery school through to university.

In general, university is not ready to take on its mandated task of training all teachers. In order to do so, it will first have to rid itself of stereotypes inherited from the last century and in particular of Guizot's consecration in 1816 of a gulf

between primary education and secondary education. It will have to accept that pedagogy is not solely a matter for primary-school teachers--that pedagogy is not synonymous with "primary!"

At a time when technological progress is obliging the production world to spend a great deal on pedagogy within the business undertaking, the public authorities must encourage efforts to promote the pedagogical preparation of university personnel.

Such preparation could begin at a stage when a future professor is still only an assistant or tutor. In the case of professors who have several years of experience, it should be based on practical experience, objective theories being constructed on the basis of subjective or unsophisticated theories.

The organizations of the teaching profession can encourage reflection on these topics in all regions and facilitate contacts between university and all the categories of teachers who must henceforth be university-trained.

TEACHER TRAINING: A CHALLENGE TO UNIVERSITY
VIEW OF TEACHERS' ORGANIZATIONS

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Introduction

What can teachers' associations do, and what means are at their disposal to improve university teaching? A thought-provoking question if ever there was one for the representative of an organization which currently groups together more than 150 national teachers' associations. It is true that these associations, some of which are professional associations, others trade unions, concern very few university teachers, particularly professors. This explains why until now our associations rarely expressed opinions on the issue of university teaching and its quality. Moreover, they were hardly ever asked for an opinion on this taboo subject, at least until May 1968, which temporarily put an end to centuries of respect for the alma mater and her high priests!

In addressing my subject I shall therefore be more concerned with stating problems than with finding solutions. Identifying and defining a problem are two stages which naturally precede an exploration of possible courses of action.

Although the events of the late 1970s raised serious questions about the universities, they nevertheless failed to challenge such fundamental concepts as:

- producing free and critical minds capable of using their knowledge and skills for the benefit of society;

- developing the cultural heritage;
- independent observation and criticism of society by constantly questioning its values, institutions and practices.

Today, however, although lecture halls appear once again to be calm--almost too calm in fact, with some professors bemoaning students' inertia, the universities are having to face new challenges to their role, challenges that question their practices much more fundamentally and concretely than did the spontaneous movement of 1968!

New Challenges

The most significant development to have affected universities during the past twenty years has undoubtedly been the increase in enrollment, which in certain countries more than quadrupled. A direct result of measures taken to give the least privileged social classes access to higher education, this growth has given rise to considerable changes in the nature and conduct of the student body. In his analysis of this process of democratization and its repercussions on university education, J.-Cl. Passeron (1) noted that "for children from the most underprivileged sociocultural backgrounds, succeeding at school depends on the degree to which teachers are not afraid to be didactic," in other words to be concerned with their method of teaching; moreover, he even found that "students from rural areas or the working classes more often than their fellow pupils call for "educational efficiency," that is, for assistance, even though it might be of an authoritarian kind, which enables them to "catch up" and consequently to achieve upward social mobility..."

Another characteristic of this new generation of university students are adults, who do not merely have the sometimes/often bookish background of the secondary-school-leaving certificate but also the maturity gained in life, particularly from working life. Being more strongly motivated than adolescents, adults expect the university to meet their specific needs, both from the point of view of its teaching methods and its curricula. These needs may sometimes be simply extrinsic, such as obtaining a degree which will bring promotion in their jobs, or they may be intrinsic, resulting from the problems they have had to face in life.

Changes within the student body and democratization have coincided with an increasingly marked trend for both the structures and the goals of higher education to become more instrumentalized or professionalized. This trend has been accentuated by

- the development of new technologies;
- cuts in education budgets;
- neo-liberalism and its business-oriented approach to education, which encourage across-the-board privatization;
- social pressure for greater efficiency!

A phenomenon which goes hand in hand with, and may even be related to, the democratization of the universities and one which affects all levels of the education system is the <u>discrediting of teaching staff</u>. Discredit, contempt and even hostility. When Raymond-Francois Le Bris (2) went back to university teaching after several years as prefect of a French department, he noted with some bitterness the loss of prestige, or even downright fall

into disrepute, that the status of professor had suffered. The new 'terminology' is a tangible sign of this change: "We are no longer professors, lecturers, assistant lecturers or assistants, we have all become teachers!" He regretted no longer being called professor, that is, someone who, as he explains later, has prepared to "be able one day to transfer his knowledge, experience and the results of his research work to someone younger than himself, in short to state a conviction--to profess!" In a brief summary of his status, he notes that "the university teacher seems to be a representative of a rather scarce category among the working population in France: a member of the liberal professions who enjoys job security." Reduced to the rank and commonplace title of teacher, what could be worse for the professor than to see the lecture halls filled with would-be primary-school teachers. This is the last of the challenges I wanted to mention--last but not least when one is aware of the pejorative connotations that the term "primary-school teacher" has in some countries and among many academics.

Universities do not like the study of educational methods, as this is seen as belonging to the level of primary-school teaching.

The challenges which universities are facing today have in common the fact that they question their practices and are going to compel them to finally concern themselves with the study of educational methods.

Although this discipline was initially confined to educational science departments, it is now sometimes of interest

to science faculties, faced as they are with a staggeringly fast development of curricula and pressures from the outside world. Elsewhere the study of educational methods or the educational sciences are generally looked upon askance and with mistrust that even goes as far as downright denial of their epistemological, scientific status. Both in universities and in the second stage of secondary education, the term "pedagogics" has a poor reputation and generally connotes "primary" education: the most negative view seems to be that the study of educational methods is a matter for primary-school teachers, because they know nothing; scholars have no need for the subject. Concerned by the plethora of works in France that condemn pedagogics as well as primary-school teachers and their trade unions, V. Isambert-Jamati (3) has drawn some interesting comparisons between some contemporary texts and others written between 1880 and 1918. She notes how tenaciously the universities have historically resisted pedagogics and the primary education it connotes for many people. Isambert-Jamati begins her analysis with the recent attacks by J. C. Milner (8), a former May 1968 activitist, who believes it is "sheer hypocrisy to call the so-called science of pedagogics educational science." The author goes on to point out that as early as 1886 the Frenchman Albert Durny had accused the new (i.e. that of 1886) science of pedagogics of sterility, pomposity and pretentiousness. Separated by almost a century, some champions of the French universities agreed that:

> "Serious methodical and truth-seeking minds are produced by erudite scientific training and not by courses in pedagogics." (1899).

"...the key virtues of a science teacher are clarity and precision; these are innate qualities" (1963).

"Pedagogics replaces the individual's creative mind with ready-made principles" (1899).

The secondary school or university teacher should not regard himself as a teacher but as a mathematician, a historian, etc.!

For Jean-Claude Milner and all those who preceded or followed him in his diatribe against primary-level teaching, pedagogics seems to be a mask which the primary teacher dons when bold enough to seek to escape his position in life. It is true that although the primary-school teacher tends to forget the social origins of his position, some university teachers are perfectly well aware of their origins when by rejecting pedagogics they seek both to preserve their historical privileges and to protect themselves against alleged mediocrity.

Transcending the 19th century models

One must sometimes go a long way back in history to understand certain structures and attitudes. This holds true particularly for the rift that still exists in many countries between primary and secondary education or between university-trained teachers and those without a university background!

In his essay written in 1816 on one history and current state of public education in France, F. Guizot (5) takes the view that "Primary education give society's lower classes the means to increase their skills, improve their lot and thereby to open up new sources of wealth for the State."

As for secondary education, he considers it "indispensable to men destined to enjoy lives of leisure and ease or who embark upon independent professions of higher order.... It includes all one needs to know in order to be what is known as a well-educated man, which in view of present-day society and the Enlightenment, means the principles of reason and good taste, a knowledge of the learned languages which have preserved the true models for us, history...etc."

Later on he emphasizes the dangers of secondary education which, if "dispensed too generously and indiscriminately, encourages lower-class young people to be contemptuous of their peers and to feel repugnance for their condition, by giving them a false sense of superiority with no longer allows them to be content with an obscure existence..."

Coming from the same working classes as their pupils, primary-schoolmasters and teachers were also to be deliberately excluded from humanist culture. The teachers' training colleges ("ecoles normales") which opened in the 1830s drew their students from among former primary-school pupils, and their sole function was to

> "recapitulate, expand and deepen the study of the knowledge valued by the model school (practical classes) and to develop the skills learned there by students."

In our country the model school was the primary school, from which the future schoolmasters of the time were to be selected.

The general training received by future teachers was deliberately restricted, as we have seen, for fear that too

"learned" a teacher might transfer knowledge which could cause lower classes to feel "repugnance for their condition."

In 1839, three years after the opening of the Lausanne teacher training college, Pastor Gauthey (6), the establishment's first principal, noted that it was better for a teacher to "have a good mind rather than a full mind," and stressed the need for the college's curriculum

> "not to go beyond the most relevant and essential ideas," emphasizing that "teacher training colleges work for the primary schools, that is, for the broad masses, and it would therefore be wrong if such an establishment were to teach ideas which were too advanced to be of any practical value in everyday life" (1839).

In response to the most progressive ideas of the times, which held that primary-school teachers could be trained to secondary education level, Pastor Gauthey affirmed without hesitation that:

> "the scientific nature of courses given by the middle (secondary) schools would not suit primary-school teachers, who must above all remain simple and teach in a manner appropriate to people of the most ordinary intelligence levels" (6).

At that time it was also feared that future primary-school teachers might grow arrogant during training in secondary schools:

> "Let us ensure that our schoolmasters and primary schools remain unassuming and that their tasks remain simple;

teaching will be clearer, sounder, more relevant and the ordinary people will be happier" (6).

Now some people might retort that this is a thing of the past! But it is not necessarily the case if one compares these statements with those of Milner and other critics of pedagogics.

These considerations are indeed very topical if one recalls that even today in many Swiss cantons, access to universities is still not available to primary-school teachers, despite all the improvements that have been made to their training, whereas any holder of a certificate of secondary education is eligible for higher education! It is very topical too if one considers how reluctant some German universities were to allow the introduction of teacher training departments for "Grundschule" (primary school) teachers.

Teachers organize themselves

Primary school teachers in the French Republic, discredited by the universities, found strength in unity through their associations and trade unions at both national and international levels. After achieving their independence from the Church, they gained independence from the State by refusing to play the role of guardians, of "black hussars of the Republic." Today they are seeking recognition for their intellectual independence by demanding the right to a university education.

It is thanks to their organizations that teachers have been a driving force in introducing changes and innovation in education. In French-speaking Switzerland I do not know of a single educational reform which did not stem from a proposal made

by our teachers' organizations. The most recent instance involves the harmonization of school curricula among French-speaking cantons.

At the international level, teachers' organizations were originally responsible for the 1966 UNESCO-ILO recommendation on the status of teachers.

By acting in concern, UNESCO and the ILO endeavored to recognize the special status of teachers as professionals and salaried employees and, in most cases, civil servants. Furthermore, it is this special status which distinguishes teachers' organizations from industrial workers' unions, as our demands are directed as much towards the quality of education as towards the working conditions of our members. In industry, so-called rationalization, restructuring and economy measures generally affect workers' living conditions but never the quality of the product. That is not the case in our field, where any reduction in government support simultaneously causes a deterioration in the working conditions of teaching staff and in the quality of the product - i.e., education itself.

Teachers' organizations have achieved concrete results in their actions because they have refused to consider professional and trade-union issues separately. The UNESCO Recommendation is not the least of these results, for it is a useful tool in our negotiations with governments. It is an instrument which in recent years has enabled us to gain recognition from certain governments for (7):

- teacher's right to participate in planning the education system, and in devising curricula and teaching methods;

- the right to university-level training as well as in-service training;
- improved working conditions and salaries that match the importance of our work.

Teacher training - a constant concern

If there is a single issue that concerns all teachers' organizations today, it is that of training, the training of their future members. This is understandable since teachers' level of preparation and the type of institutions responsible for it are going to have an impact on the teacher both as a professional and as a worker. Better training could mean better salaries for teachers and, hopefully, a better education for their pupils.

Our organizations, which today represent teachers from nursery school to high school level, and sometimes even university level, have abolished the divisions of the last century, and now demand university-level training for all their members. In so doing they are following one of the main points of the 1966 Recommendation (7), article 21.1 of which states that

> "All teachers ought to receive their general, specialized and educational training in a university or an institution of a comparable level...."

Article 25 further states that

> "The staff in teacher training establishments should be sufficiently qualified to teach their own discipline at a level comparable to that of higher education...."

As regards access to this training, our organization, WCOTP, stated in its 1982 resolution (8):

"Teacher training candidates should have received the best basic education and preparation available in their country. Ideally they should fulfill the same conditions as those required for entrance to university."

Our European colleagues, meeting on this issue in 1981, are of the opinion that

"Regardless of the level at which a candidate is to teach, three fundamental requirements will always exist, although their order of importance may vary according to the level of teaching:

- a command of the subject matter which matches teaching curricula and research work;
- familiarity with the pupils' psychological and sociological backgrounds;
- a theoretical and practical knowledge of the means, methods and techniques of teaching."

Teacher training: a new challenge or a new opportunity for the universities?

A new challenge you may well reply, but have the universities not always trained teachers, high-school teachers for example?

True, but are they always aware of doing so? Do the professors who, year in year out, lecture to anonymous audiences realize that not all their students will later become researchers, engineers, mathematicians or senior civil servants? Does the history professor who each year repeats his esoteric lectures on the Hundred Years War realize that his course will, in theory, form the basis of those taught by the future teachers

among his students? And above all, to what extent are university professors aware that they act as models and that frequently their teaching methods, whether relevant or not, will be reproduced for 30 or 40 generations of high-school students?

When admitting future primary-school teachers, universities will have to adapt even more in order to take account of the special needs of these new students. At the same time the universities will have to reconcile themselves with primary education and pedagogics. At present, most universities are not prepared to assume this new function or seize this new opportunity!

First of all, they will have to be more open. University staff in charge of training teachers, academically as well as with regard to educational preparation, will have to acquire knowledge of state schools which exceeds their experience of such schools as former pupils.

Opening up the universities also implies establishing an on-going dialogue with teachers' organizations. For our organizations this will be an opportunity to make a concrete contribution to improving university teaching.

Once they have a say in matters, because they are concerned by events in universities, teachers' organizations may be in a better position than frequently-isolated professors to demand the policies and resources needed to improve university practices and efficiency. At a time when private enterprise is under pressure from rapid technological advances to increase expenditure on training trainers, it is important that governments also give universities the means to accomplish such a task.

Universities must be given the resources they need to provide educational training for all those responsible for teaching. Educational science faculties or departments could, for example, contribute to the training of all assistants, research staff and other intermediate members of staff from whom professors will be appointed. A good command of communication, learning and knowledge-acquisition processes will form an essential basis for their teaching, instruction and educational-support activities. With experienced teachers, particularly in the faculties where people are afraid of educational jargon, everyday practices and the naive or spontaneous theories which guide these practices, will form the most effective basis for building the objective knowledge capable of directing teachers towards more rational teaching methods.

Other concepts might enable all university staff to better fulfill their new functions; for example

- those relating to the characteristics of adult students;
- a knowledge of assessment procedures;
- the intelligent use of audio-visual systems;
- a knowledge of the potential and limitations of the computer;
- information about the grammar peculiar to typical textbooks in their discipline.

In order to follow up the various international recommendations on the subject, universities should also consider how they could contribute towards issues such as

- education for human rights
- education for peace
- health education, etc.

which can only be addressed using an interdisciplinary or pluridisciplinary approach.

The last notion has led us to emphasize the need, at university level as well, to create teams of teachers composed of representatives of various additional faculties and departments.

If university teaching is to become more career-oriented, more instrumental, should not university professors, not just sociologists, also show greater interest in the world of work...? Like primary and secondary-school teachers, university professors would benefit enormously from a better knowledge of their students' backgrounds, and this would surely help to improve educational communication.

What can associations do?

Having reached the point at which I ought to be nearing the end of my presentation, I realize that I have yet to answer the question I was asked to speak on by the conference organizers, namely how can associations contribute to improving university teaching. To do so I should have referred to the situation in Switzerland! But I am unable to do so, as I know of no association of university professors in my country! If there is one it is silent. Concern for university teaching has not gone beyond a few professorships, such as those at the polytechnics

In other countries, such as France, few university professors or teachers are interested in professional associations. The choice of an association is often governed by political allegiance. Some opt openly for trade unions, the Syndicat de l'enseignement superieur, and they are accused of politicizing

the trade union movement and universities. Others join associations of professors and assistants and are accused of corporatism... and in particular of denying that they are workers and failing to show solidarity towards other categories of workers. Neither seems to be in the least concerned with the issue of university teaching.

Of course, specialized associations do exist at both national and international levels, but their members are those who are already firmly committed, and who are often isolated within their respective universities. The enthusiasm they display at national or international congresses is quickly dampened on their return to work by the passiveness of their uncommitted colleagues.

Given the present situation, I have my doubts as to the ability of associations directly concerned with universities to exert the type of pressure, either inside or outside the institution, needed to effect the improvements we are seeking. We have seen how other teachers' organizations succeeded in introducing changes in their schools and improving their status on the strength of their unity. In the face of the new challenges I have just mentioned, university teachers should also come out of the isolation characteristic of some professions and strive towards the efficiency and influence that can be achieved when many people unite!

What associations?

Associations, organizations or unions (the name matters little) must therefore be set up for university teachers...organizations likely to attract a majority of our

colleagues. The main basis for such organizations should be a concept of the teacher's place in society...a concept which goes beyond both that of hard-line trade-unionism and that of the just-as-narrow corporatism of the liberal professions. We have already noted earlier that in our own profession these two aspects cannot be separated.

Teachers in higher education, like their colleagues teaching at other levels, are

- professionals, with all this implies:
  - training
  - participation
  - professional code of ethics
  - independence
  - responsibility
  - status, intellectual prestige
- salaried workers, normally with an employer
- public employees, that is, workers whose employer has both the powers of a boss and the legislator!
- citizens, members of a national community
  - members of a political movement
  - members of a church
  - members of an army
  - etc.

It would be interesting to draw up a network showing all the relationships that such a position in society implies.

Some associations or unions make the mistake of failing to take account of this complexity and pursue only a certain category of goals on behalf of their membership. Thus there are some unions today whose membership levels are falling because they have been almost exclusively concerned with defending workers' material living standards, and have neglected their professional interests. Conversely, many specialized professional associations are losing members because they have

refused to recognize the impact of politics or the economy on their sectors.

In the 100 countries where we are working, we are striving to support or to promote the development of teachers' organizations with the following objectives and characteristics:

Objectives:
- promoting education;
- defending teachers' professional, moral and material interests;
- unified representation of teachers in the two areas listed above.

Characteristics:
- a balanced approach and refusal to dissociate professional and trade-union issues;
- independence from governments and political parties (which does not preclude common interests on some occasions);
- social commitment in all matters directly or indirectly related to education and teachers.

Applied internationally, these objectives and characteristics mean that our organization, WCOTP

- is in favor of promoting an educational system which is
  - democratic
  - free of charge
  - universal
  - critical
- is in favor of a status worthy of the teaching profession;
- is involved with international organizations such as the UN, UNESCO, ILO, Council of Europe, etc.
- contacts all governments that are concerned whenever our colleagues' professional, moral or material interests are harmed or their fundamental rights violated.

On the question of UNIVERSITIES, we have just been asked by UNESCO to conduct a preliminary survey with a view to preparing a recommendation on higher education staff.

Although we are not convinced that a separate recommendation should be issued for higher education staff we shall only be too

pleased to carry out this study, perhaps with your cooperation, in the hope that we will thereby contribute to improving university teaching.

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SLEEPING BEAUTIES - OR: FUNCTIONS AND INSTRUMENTS OF ASSOCIATIONS VIEWED FROM THE PERSPECTIVE OF THEIR ROLE IN IMPROVING UNIVERSITY TEACHING

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SUMMARY

This paper was written by someone who has been on both sides of the line. On the one hand I have been involved in innovations in teaching and learning ever since the beginning of my university career. On the other hand I have been a member of many associations and president of two associations involved in improving university teaching, the Arbeitsgemeinschaft fur Hochschuldidaktik (AHD) and the European Association for Research and Development in Higher Education (EARDHE). Thus I will look at the problem from both sides, i.e., the question of what the associations can do and what the innovators need. Hopefully my analyses will be helpful in answering two questions:

a) Where are the deficits of existing associations?

b) What additional activities can they develop to improve university teaching?

In my talk I shall first review the

1. functions and instruments of associations for us to see how and whether they can be of help in fostering or bringing about improvements.

2. I shall then look at the system of the innovator and its needs for introducing and continuing improvements in the process of teaching and learning.

3. process of specialization of professional associations and will ask, how the sleeping beauties, i.e. the professional disciplinary or subject associations could be kissed awake so as the become active in fostering improvements in teaching and learning.

FUNCTIONS AND INSTRUMENTS OF PROFESSIONAL ASSOCIATIONS

Let me start by defining what I mean by associations, because

- there are many associations or similar organizations which could, or maybe, should help in the task of improving university teaching: teachers unions, foundations such as the Carnegie Foundation,
- and last but not least student organizations and professional and special interest organizations.

In my talk I shall limit myself to professional organizations. Of these there are two types: disciplinary associations such as the associations of economists, mathematicians, historians, etc., of which there are probably far more than a thousand in the world, and the special-interest associations, which have the improvement of university teaching as the or one of their primary goals, such as the European Association for Research and Development in Higher Education (EARDHE), the Society for Research into Higher Education (SRHE), the Arbeitsgemeinschaft fur Hochschuldidaktik (AHD), the Osterreichische Gesellschaft fur Hochschuldidaktik (OGHD), etc. Of the latter there are probably less than two handfulls.

What functions do these associations have and what instruments do they have at their disposal to fulfill these functions?

1. As the first function I would like to mention the **establishment of a scientific community** that is to say the grouping together of informed people with a similar background (education, formation, language) and similar interests.
2. The provision of **channels of communication** within this community, i.e. the fostering and the spread of information about the **research** activities of its members and about the trends and problems in the field.
3. The discussion and the setting of **standards**, i.e. dealing with such questions as: What is good quality research? What are acceptable ethical standards? What requirements should the training of the students fulfill?
4. The fourth, very important function is that of **serving as a base for the networking of members** who want to have help, information, etc. for their individual projects, i.e. providing for possibilities for individuals to establish contacts among themselves.
5. The fifth function is that of giving **support** to its **members**, be it moral and emotional by giving recognition and legitimacy to their work and encouraging them to go on with their struggle or practical such as legal assistance.

6. The sixth function is that of providing for an **academic market** place for those who are negotiating and want to know what is acceptable and what is not.

7. The seventh is the **political and public function**, i.e. the function of managing the contacts of the scientific community with the state and other institutions by lobbying for and representing the interests of the members by making available their knowledge in public hearings, by naming experts, etc. and further by informing the public about the goings on in the scientific community.

How do associations go about fulfilling these functions? Let us look at the seven most important sets of instruments commonly used. I will not discuss them in detail. You are all familiar with them:

Fig. 1: Instruments of associations

- the organization of conferences, seminars, etc.
- the publication of directories, papers, proceedings, newsletters, journals, monographs
- the participation in public affairs such as hearings, discussions, etc.
- press releases, press conferences, the placing of articles, etc.
- offering counsel and training
- international contacts, rewards, scholarships, exchanges
- lobbying and the representation of interests through contacts with government, politicians, etc.

These functions and instruments are common to most associations of both types. However, when we look at the needs of those interested in promoting university teaching, the functions and instruments might acquire a new dimension. We will come back to this point later. First let us have a look at what these needs are.

THE NEEDS OF THE INNOVATOR AND THE INNOVATING SYSTEM

Let me start out again by a clarification of terms:

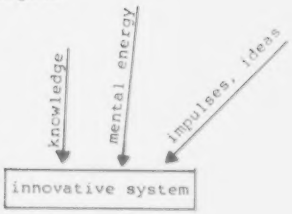
1. People who try to improve university teaching I call innovators. The innovator, the innovation and the environment directly involved in the innovation (students, support, etc.) I call "the innovative system."
2. These systems I consider to be self-referencing, i.e. self-organizing and self-teaching. (1) Essentially they learn by trial and error. They expect, act, evaluate and proceed to new expectations, actions and evaluations.
3. For such systems to be truly innovative they need certain inputs such as mental energy, impulses and ideas, etc. In the following I shall analyze in more detail, what are necessary and what are helpful inputs for these systems to be innovative, before I come to the question of how professional associations can be of help in this matter.

First of all there has to be a disposition to change: feeling a need, having the energy and willingness to try out something different, possessing the knowledge that there are

alternatives, a desire and curiosity to break established sets of behavior. Some inputs helpful for producing such a disposition, are pictured in fig. 2a.

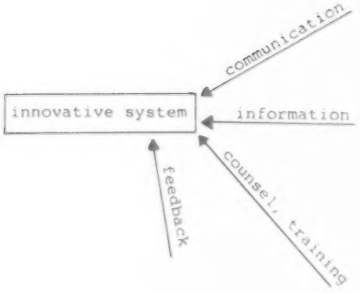
Fig. 2: External inputs

Fig. 2a:



However, the desire to change is not enough. There also has to be a process of communication and feedback, the partners in this context being colleagues, students and possibly even administrators. Also, the innovator usually does not start from scratch. He/she will get information helpful to the change on such matters as similar experiences, theoretical background, etc. Also he/she might want to require counsel and training.

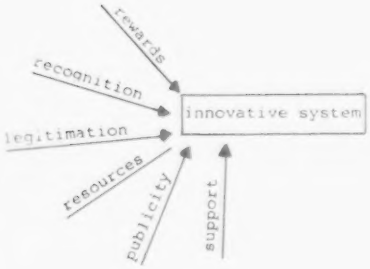
Fig. 2b:



While the first group of inputs referred to the initiation of improvements, the second group refers to the actual carrying through of the process.

There is, however, a third group of inputs, which are of a more contextual, climatic or environmental type. When they exist, they can greatly favor and foster improvements; when they are lacking, individuals can proceed to innovate. They will, however, find innovations to be more cumbersome, more energy-consuming and perhaps less motivating. Thus, if this group of factors is lacking, innovative systems are less likely to be self-referencing and self-perpetuating.

Fig. 2c:



In this third group of factors figure additional resources such as money, time, manpower, etc. A second factor of this type is legitimation, i.e. the kind of support which gives legitimacy signaling to colleagues, administrators and students that this is an important and worthwhile activity. The third factor in this category is rewards, both material and unmaterial. The fourth is recognition, the fifth publicity and the sixth political and emotional support.

When you look at six four factors you will see that it is these factors where the external inputs have been particularly weak causing slow burnout in many of our innovative systems.

THE PROCESS OF SPECIALIZATION AND SEPARATION

During the last thirty years we have experienced an upsurge of interest in teaching and learning in higher education. In spite of this interest of university teachers and university students as well as a large part of the public, at least in many countries, changes have been limited and isolated. They were usually initiated by individuals or small groups, leaving the rest of the teaching and learning and the faculty or institution unscarred. Given the needs of the innovators, it is not surprising that associations were created which would fulfill some of the needs of these people. In doing so the needs of these associations have played an important role in fostering improvement in teaching and learning.

On the other hand, by providing this scientific community and fulfilling the functions for them that they are in need of, these special interest associations have cancelled the energies of its members to themselves. Thus they have taken the pressure off the professional or subject associations, to deal with their problems and needs. They provide for a home and shelter for the innovators relieving them of the task of fighting within the professional associations to be heard and to be provided for. Thus, the special interest associations have come to a group of inbreeding insiders.

Granted, for sometime this was necessary. However, if the improvement of university teaching is to become a substantial activity rather than an activity of an orchid type, innovators are needed within their universities to become multipliers and not adherents of a special sect. Therefore we must begin to

think of how we can encourage our insiders to press professional associations to attend to the important task of making the improvement of university teaching an issue and a field of activity.

Let me give you an example which may serve to illustrate what I mean. Being an economist you may forgive me, if I use an example of my own professional background. Ever since the 1950's subcommittees of the American Economic Association have dealt with questions of economics education. The two major issues since that time were the content and the effectivity of the teaching of the 'principles of economics' course, for many U.S. students required courses in several disciplines, and, that was called "economic literacy," i.e. the teaching of economics in schools and the knowledgeability of the public on economic problems. In the late 1960's and the early 1970's teaching methods and teaching effectiveness became a major concern and research on these topics was encouraged.

Ever since then economics is a standard topic at the annual meetings of the American Economic Association. Papers are presented there and the summaries of the discussions are published in the proceedings of the association and articles on research appear in its journal. In 1978 in the directory of the association, 45 economists indicated that economic education was their primary specialty and in the same year a review article on the research in the field appeared in the journal of economic literature, reviewing 179 publications. (2)

CONCLUSIONS

Now, where does this analysis lead? What can we learn from it?

1. Associations can and should play an important part in improving university teaching. If you compare the needs of the innovator to the functions and instruments you will see that associations can cater to many if not most of these needs.

2. When using these instruments associations should pay special attention to the needs of innovators. Thus a directory of the members of the associations may not limit itself to giving the names and addresses of people. It must also list their special interests and the projects they are presently working on. In the same line of thinking a congress which is to be gathered to the needs of the innovators, may not limit activities to lectures and discussions. Rather it must provide for ample and varied opportunities for people to meet, to exchange ideas and to present information. Information markets, home-groups, table and poster sessions, information and project markets, etc. are some of the modern techniques which have proven to be helpful. Also, social and cultural activities should provide opportunities for members to meet in different contexts and on different experiential levels.

3. The power of the special interest associations to provide for the third group of inputs is too limited. They could provide a midwife or holding function in a

Functions / Instruments	constitution of a scientific community	spreading of information, fostering communication	discussion of standards for research, ethics, teaching	serving as base for networking of individuals	giving support to members	academic market place	political and public function
organization of conferences, seminars etc.	●	●	●	●	●	●	●
publication of directory, papers, proceedings, journals, newsletters, monographs	●	●	●	●	●	●	◠
participation in hearings, press conferences, press releases, placing articles ...		●			●		●
international contacts, rewards, scholarships, exchanges		●			●		●
lobbying and representation of interests through contacts with government etc.							●

first phase of development. They can also provide shelter for those who do not want to give up. But what if the improvement of university teaching is not longer a theme for society? What, if priorities change? Then being a club of nice veterans is an almost certain way to extinction. Many of my European colleagues are of the opinion that this is exactly what is happening now. In such a case what is necessary is to take improving university teaching out from special interest associations and see to it that improving university teaching becomes an issue at their meetings and that they take over the functions which we have outlined above.

We must kiss awake the sleeping beauties. We must become aggressive, astute and creative to make IUT a theme again within the disciplinary professional associations. Let us discuss how this can be achieved, how we can get them to see this as their responsibility!

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CORPORATE AND UNIVERSITY PARTNERSHIPS

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> "When the annals of our time are recorded, it will most likely be found that the two greatest contributions of our time have been the U.S. university and the U.S. corporation: both mighty forces, both uniquely American. If these two forces can go forward together in understanding and cooperation, there is perhaps no problem beyond their joint power for resolution. If, however, they choose to go their separate ways, there is no solution of any problem affecting either that is likely to be long lasting."
>
> Alfred P. Sloan, Jr.
> (1875-1966)

Milton Eisenhower, former President of John Hopkins University, once stated that "Higher education and business are basically interdependent. One needs money to produce educated people, and the other needs educated people to produce money."

That statement personifies the traditional starting point for collaboration between business, industry, labor and institutions of higher learning. A relationship that has been strongly supported and nurtured for hundreds of years.

But times are rapidly changing and new forms of partnerships have emerged. Today, corporate-university partnerships are much more diverse and complex in design and operation. The whole world is changing and is continuing to do so at an accelerated pace. A result of this change is the birth of many innovative collaborations.

Organizations, too, are changing in design and operation and these changes are leading more and more corporations and institutions of higher education to explore unique partnerships.

There are a multitude of structural changes occurring within organizations that enhance business-higher education linkages. Briefly,

these shifts are affecting the various components of organizations as follows:

Structure	-	more flexible, open, and responsive to the needs of members
Atmosphere	-	relaxed, people centered, supportive in nature, warm, and fostering a "win-win" or everyone benefits environment
Leadership	-	innovative, creative, risk-taking, and team-oriented approach to problem solving
Planning	-	participation by all, needs-oriented and problem-centered in design
Motivation	-	internal incentives, self-directed, and positively oriented with a winning attitude
Communication	-	multichanneled, feelings expressed by the group, supportive environment, and use of both formal and informal communication channels

Along with the dynamic changes transpiring in organizations changing technology, changing environments, and changing values are encouraging more campus-business linkages.

Specifically, in the arena of technology the movement from low tech to high tech has increased the necessity and desirability for more joint programs.

A changing environment reflected through the shift from an industrial to information/services economy, population migration to the Sun Belt, the influx of women and minorities into the work force, the self-employed, and an aging workforce and society are drawing more groups together in forms of partnerships to address problems of mutual concern.

And finally, fluid values within our society, as seen through the values shift of the baby boom generation (1946-1964) and the computer

babies (1965-1975), the viewing of work as only a slice of one's total life experiences, and the importance of leisure time have set the stage for even more dramatic transitions in the future.

Organizations are rushing to meet the demands of an emerging society. As a response to the rapid pace of change colleges and universities are becoming more like businesses, and corporations are becoming more like colleges of life-long learning. The exciting result is that universities and corporations are working more closely together than ever before to both benefit from and keep ahead of the changes anticipated in the years to come.

There are many multifaceted collaborative interactions that can benefit both university and corporations in partnership arrangements. These partnerships include but are not limited to:

- Increased corporate financial support of higher education institutions and students, either through unrestricted contributions or targeted donations to specific high-priority areas of need
- Contract research agreements and joint research
- Corporate associates and affiliates programs
- Retraining and professional development courses for all employees
- Adult education programs for corporate employees
- Cooperative education
- Personnel exchanges
- Conferences, colloquia and symposia
- Consultancies, lectureships and faculty loans
- Volunteer programs, trusteeships and advisory services
- Corporate recruitment
- Joint efforts to address national problems

There is no doubt that the relationships which have developed between the corporate and academic communities provide ample proof that the separate interests of the two can, and do, reinforce each other on a reciprocal basis. The prosperity of one is of direct benefit to the other; and each can do much for the other to enhance the welfare of both. In today's society strengthening appropriate ties between business and higher education should be looked at as a matter of high priority.

In attempting to develop and nurture collaborative projects two important areas of concern must be addressed. This paper examines two critical aspects of campus-business linkages: categorizing and working with "changes" happening and developing leadership skills necessary to utilize change within an organization.

First, both business and higher education must understand and benefit from "changes" happening in society. Most importantly, too, both groups must understand how to use and master "change" in their planning process.

Second, it is imperative that leadership skills necessary to bring groups together to work productively with change be reviewed.

Therefore, coupling the need for mastering "change" to both benefit the organization and to predict the future of potential partnerships, along with recognizing and developing the leadership skills necessary to lead organizations in overcoming habits, traditions, and mindsets that might hinder partnerships, form the basic foundation for any corporate - university partnership.

Understanding the effects of change and the leadership skills necessary for implementing change will allow universities and corporations to meet the challenges of the 21st century in a cooperative and effective fashion.

Leon Martel, author of "Mastering Change" states that we live in a

world of change, yet we act on the premise of continuity.

Why? Basically, individuals are not conditioned to readily identify or respond quickly to change. They often perceive potential change as frightening, occurring too quickly with little reaction time to adjust or as pure nonsense. Thus, most try to avoid change as much as possible and prefer to live in a state of continuity.

Continuity is something desirable (and soothing) to many. It is familiar, safe, and offers a feeling of security. Continuity is reflected in the well-known statement: "If it was good for the organization all these years it will still be good for it in the future."

Because of our tendency to cling to the continuity in our lives many opportunities are lost as we try to buffer ourselves against the force of change happening in today's environment.

As we look at change each of us must ask ourselves three basic questions about changes to come: What are they? How can I deal with them? How can I turn them into profitable and rewarding opportunities that will benefit my organization? This is the starting point in understanding and mastering the future.

To begin with, certain perceptions about change must be eliminated from our thinking. The first of these is the belief that yesterday's solutions will solve today's or tomorrow's problems. Second, assuming present trends will continue. And third, neglecting the opportunities of future change.

Once we clear our minds of these antiquated perceptions we can develop a new vision and perspective on harnessing change.

There are basically two categories of change that we need to concern ourselves with: structural and cyclical.

Structural change is a non-reversible change which requires permanent adjustment. This can be seen in the movement from horses to automobiles for transportation, vacuum tubes to integrated circuits in electronics, industrial to service economy in America, and the entrance of women in the U.S. work force. These changes are permanent and will never revert back to the previous system that prevailed in the past.

Cyclical change differs from structural in that cyclical change is a repeating change for which the response is temporary and recurrent.

This category can be viewed in business cycles (expansion and contraction of the economy), fads, conservative/liberal swings of society, and, as everyone notices, interest rates. Both types of changes are important to identify and utilize in any short or long term planning process.

Having categorized the changes happening into two groups a simple process for understanding and evaluating these changes can be established. The eventual outcome of evaluating and documenting change is to incorporate the organized data into the future operation of the organization. For both structural and cyclical changes we must look at and evaluate the pattern of change. Specifically, we document the direction, magnitude, pace, and duration of the change to the best of our current knowledge. As with any future planning we constantly revise our materials when new data becomes available.

As an example of plotting change we can evaluate a structural change of female participation in the U.S. labor force.

Women in the Work Force

Direction - Upward, increasing in numbers

Magnitude - Large, 1940 approximately 25% of women 16 and older worked; 1980 approximately 50% participation rate; 1995 approximately 65% participation rate

Pace - Rapid in 1940's; Slower in 1950's; Accelerated in 1960's and 1970's; Slower growth in 1980's and 1990's

Duration - Approximately 40 years from mid 1950's to mid 1990's; Stabilize in 1990's

Now we have established some supportive data on women in the work force to help in organizational planning. Other changes can be plotted in the same fashion. In fact, the same procedure can be used for cyclical cycles or for categories which have a tendency to reflect both structural and cyclical characteristics.

The important point of this exercise is taking the time to think through changes happening and to summarize the potential outcomes in a step-by-step manner.

Once this procedure is established a more comprehensive system for "mastering change" can be created.

A comprehensive system for "mastering change" is relatively easy to follow:

1. Recognize change is occurring
2. Identify changes
   A) Those affecting your internal operation
   B) Those affecting your external market
3. Determine the type and pattern of each change:
   A) Type: structural or cyclical
   B) Pattern: direction, magnitude, pace, duration
4. Rank by importance and likelihood of occurring
   A) Importance: most, moderate, or less

B) Likelihood: most, highly, or less

5. Make use of information

A) Strategic (long term) response for structural changes

B) Tactical (short term) response for cyclical changes

This "mastering change" technique enables corporations and universities to identify mutual areas of interest and concern for both present and future collaborative projects. It is imperative that both corporations and institutions of higher education understand changes happening and develop the appropriate responses to meet and capitalize on these changes for the benefit of both organizations. The success of any collaborative efforts depends on the vision of institutions in identifying and utilizing change to their advantage.

Closely coupled with understanding and mastering change are the effective leadership skills of the organization - be it corporations or institutions of higher education - to incorporate change into their planning process. The only way change can be used as a positive force in an organization is when the leadership is committed to acknowledging, recognizing, and responding to change in a timely fashion.

In order for successful business-educational linkages to occur, leadership of both groups must first overcome past habits, traditions, and mindsets that bind them to the past. Overcoming these obstacles to change will enable groups to move forward with new ideas and visions toward meeting the needs of their organizations. Only when leadership first re-evaluates the past practices and then accepts change will they begin to utilize change to their advantage.

A review of the research on appropriate leadership skills, those desirable within a fast changing environment, yielded common results. Contemporary writers feel that leadership in the future must:

- Want to lead
- Have a healthy attitude toward both the needs of people and of society as a whole
- Focus on the present and future simultaneously
- Bridge the gap between different interest groups
- Constantly be scanning, monitoring, and interpreting events
- Share the capacity for appraisal
- Develop and utilize intuition
- Have the ability to manage a vision for the future of what they want to accomplish
- Utilize the role of leader as teacher
- Be aware of what is happening all around them

Leadership skills necessary for successful university-corporate partnerships also closely parallel the research of Bennis and Nanus in successful leadership. Those accomplished leaders:

- Acknowledge and share uncertainty in task force settings with colleagues
- Embrace error, using their mistakes as learning experiences
- Respond to the future by engaging in goal-setting exercises to force re-examination of current assumptions and priorities
- Use interpersonal skills (listening, nurturing, coping with value conflicts) to encourage others to join the search for new ideas
- Constantly enhance their understanding of their own limits and biases by testing their views against those of knowledgeable colleagues and outside experts

Leadership skills coupled with the ability to recognize and respond

to change represents two of the many variables that are present in the development of any type of corporate-university collaboration. Yet, these two variables are perhaps the most critical in bringing groups together to effectively help and serve each other.

At this time we may ask ourselves where do we go from here? What is the future of corporate-higher education partnerships? The future will be exciting as collaborations continue to increase and multiply in both traditional and non-traditional areas.

The world is moving toward a global community/global economy and the pressures for groups to come together to explore mutually desirable interests will continue to escalate. Change will continue to accelerate and organizations, today, are beginning to realize that they can not survive by growing inward.

Someone once said that the future is not what it used to be. Because the future is truly different than it used to be only colleges and corporations that recognize and utilize change can eventually overcome restrictive habits, traditions and mindsets.

Once this is accomplished, they can then explore and develop unique and beneficial partnerships that will make use of the changes which are happening in our fast changing and, eventually, far reaching global society.

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CORPORATE AND UNIVERSITY PARTNERSHIPS
A EUROPEAN VIEWPOINT

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The links between University and Industry are a main concern of higher education. The new corporate-university partnerships are considered today as one of the major means for the transformation of "knowledge-transfer systems" and for the adaptation of these systems to the various and complex needs of the society.

The communication will provide an opportunity to present a European viewpoint. It especially will point out the recent evolution of the mentalities and of the practices within universities and industries in Europe.

One shall examine what kind of corporate-university partnerships exist within Europe and what kind of national or international programmes are supported.

Then one shall ask about the consequences of such new partnerships: aren't we moving toward a new and plural society, which gives priority to the "intelligence industry" and to the transfer of knowledge and know-how?

Being mainly involved in engineering and education, my demonstration and my examples will be based on experiences in this field of higher education. But I consider that there are no real differences between engineering education and the rest of higher education: just perhaps some advance in the perception of the problems and in the way to solve them.

A General Overview of the Various Kinds of Partnerships

In 1984, I was invited to present a similar paper at the 10th International Conference IUT (1). In a few words, I wish first to summarize here the essential points of my precedent contribution.

First of all, cooperation between higher education and industry is not really a "new thing," especially in Europe. But it is becoming a major aim for new developments, as it is indicated in two recent UNESCO monographs, a first one written by Wilfred Fischwick (2), and a second one which is an issue of the Journal "Higher Education in Europe" (3).

Some signs of this new trend can be found, for example, in two recent facts in Europe:

- in Britain, the Finniston Report, which proposes to improve engineering education, especially by creating better links between the universities and the professions,
- in France, the 1984 Law on Higher Education, which gives a priority to the "professionalisation" of education within the universities.

Considering the various kinds of partnerships, Wilfred Fischwick, in her monograph for Unesco, suggest three main areas of cooperation.

One is direct assistance to colleges by industry, a second one is the assistance that colleges offer to industry and lastly, the cooperative ventures between industry and colleges.

Direct assistance to colleges by industry concerns curriculum design, college councils or boards, part-time teaching staff, advice on research topics, loans and use of

equipment,visits to industrial firms, undergraduate and post-graduate project works, engineering case studies, college staff on leave in industry, etc.

The assistance that colleges provide to industry seems to concern the use of the university's resources, college staff as consultants, industrial liaison offices, contract offices, special research and design units, professional training courses and continuing education, etc.

The third area, cooperative ventures between industry and colleges, consists in joint appointments, interchange of staff, joint conferences and seminars, joint research and development projects, joint curriculum development, etc.

As far as the partnerships are concerned, three remarks can be forumlated:

a) there is a juxtaposition of old and permanent schemes and of new kinds of cooperation. For example, besides the traditional participation of the professions at the design of curricula (more or less, depending on the countries), one assists at a recent trend toward ventures for research and innovation.

b) there is a new tendency in which the emphasis is now more on cooperation in research and innovation than in education.

c) there is also a new trend toward more balanced cooperation. Higher education and industry seem to be on the same level of responsibility within the cooperation. They need each other.

At that point of my presentation, I must say that during the last 2 or 3 years, the cooperation between industry and university has been seriously developed, especially in Europe. Many signs can show how the partnerships are now considered as important factors for the transformation of the society. Thus, the European Journal of Engineering Education, which is the official Journal of the European Society of Engineering Education (SEFI), published in 1985 a special issue devoted to "Engineering education and industry" (4). In this issue, several examples are presented which indicate tendencies in many European countries. The annual SEFI Conference, in Edinburgh (1986), is entirely dedicated to the theme "Industry and Engineering Education" (5).

Another sign can be found within the recent French-American symposium, held in Paris in April 1985 (6), and which was devoted to the new forms of cooperation between higher education and industry: science parks, incubator factory systems, etc.

Last example, but not the least: the European COMETT Programme, which fosters the University-Industry partnership within Europe. This programme set up by the European Economic Community, seems to be something which shows the real change within the mentalities and the attitudes.

Many other events or experiences could be mentioned. But, due to the fact that a general survey cannot be presented here, it seems better to point out certain main cases.

Some Trends in European Countries

The topic of University-Industry cooperation has reached epidemic proportions in European countries, so that every

university has established, for example, some office to promote this activity. There can be no doubt that Europe has been slow off this mark compared to the USA and Japan. And it is true also that all in the universities are not convinced that it is the right way to go. Many of the traditions of both the academic and industrial sectors of European society are under attack but conversely, rich opportunities from cooperative programmes appear to be around the corner for both.

A European re-examination of the partnerships in today's technological society seems necessary.

One will consider five European countries: UK, Germany, Ireland, Denmark, and France.

The UK Situation

As mentioned by Crossland in the SEFI Journal (7), in the UK, engineering education as it was set up, was more divorced from industry than in France or Germany. During the last three decades, some efforts have been made to achieve a partnership between industry and the institutions of higher education. Until a few decades ago, much of engineering research in the universities was in the field of engineering science; but now more engineering research is being carried out in cooperation with industry. University engineering departments have also realized that they have a contribution to make in providing advisory services for industry and short post-experience courses for engineers in industry.

The role of the new Engineering Council should be pointed out: it proposes new industrial involvement in the undergraduate courses, but also in post-graduate research.

For its own part, the Science and Engineering Council (SERC), has also taken initiatives to encourage industrial collaboration such as the "Teaching Company Scheme" and the "Co-operative Awards in Science and Engineering" (CASE).

A fine example of collaborative research could be found in the partnership between the Queen's University of Belfast and the firm ICI.

Besides industrial collaboration in the undergraduate courses and in postgraduate research, universities can provide advisory services for industry, particularly for small and medium size firms, who usually do not have the breadth of technical expertise to cope with all problems they may exercise or to get into the new technologies.

Another interesting example, mentioned by Wilfred Fischwick (2), concerns the recent creation of a course, organized at Bath University in cooperation with industry. This new course tries to break the traditional scheme of engineering education in which education and training are separated. A strong cooperation between the Department of Electronics and the Marcony Company made it possible to create such a new course which leads to a Master's Degree, and takes in account the very specific needs of this industry.

Bolton, in the SEFI Journal (8), points out a number of initiatives in the UK. These initiatives range from industry-based research programs to university groups entering

the industrial world for themselves. He also mentioned two recent reports by the UK Government Advisory Council on Applied Research and Development, that have dealt with these matters.

The first report, issued in June 1983, was entitled "Improving Research Links between Higher Educatoin and Industry." The second report, issued in October 1983, considered "factors which inhibit or support the introduction of new and advanced manufacturing technology in engineering manufacture."

Five major collaborative initiatives were identified in the Government reports:

a) informal consultancy arrangements;

b) industrial liaison units;

c) Science and Engineering Research Council schemes, including co-operative grants, co-operative awards in Science and Technology, collaborative training schemes, the Teaching Company Scheme, etc.;

d) exploitation of university research;

e) industrial advisory groups, or groups of industrialists set up by universities and polytechnics to give advice on course content.

The German Partnerships

The links between industry and University are well developed in Germany. The German "Technische Hochschulen or Universitaten" and the "Fachhochschulen" seem to have no serious problem in establishing partnerships with industry.

Considering engineering education, one must only point out the role of the German Institution of Engineers, VDI, and also

the attitude of certain big firms like Siemens. More than 200 professors from universities, have worked in the past for Siemens industry. Approximately 60 engineers from Siemens give lectures within German universities. Some professors have the opportunity to spend six months or one year in a Siemens laboratory.

The firm encourages all kinds of transfer of knowledge and know-how and does not hesitate to finance projects and to support engineering departments of German universities.

Another evidence of the importance of the partnership can be found in the incubator factory system developed at the Berlin University. In a recent Berliner newspaper, one can read that the spin-off company entitled "Ingenieur Gesellschaft fur Aggregatetechnik und Verkehrs-fahrzeuge," near the TU Berlin, multiplies its capital by six and develops activities in cooperation with firms like Dupont de Nemours or Garrett. During the last three years, 30 research projects have been supported in such a way.

An Irish Perspective

For Galvin (9), there are principal reasons why the bonds between higher education and industry must be strengthened in Ireland:

a) competitiveness and unemployment in industry require it;
b) the R and D resources of the universities can be the life blood for many future developments for manufacturing companies;
c) Ireland is a long way behind other countries in R and D.

He adds that more positive and dynamic resource-sharing between higher education and industry must be one of the national priorities.

At University College Dublin, for example, a wide range of growing contacts with industry can be mentioned: university staff are involved in industry, industrial lecturers teach in the School of Engineering, and there is a scheme of undergraduate project employment. A Campus Innovation Centre has been also established at UCD, jointly supported by the College and the Industrial Development Authority.

It is interesting to note that, for John Kelly, Dean of the Faculty of Engineering at UCD (10), there are seven strategies for strengthening the partnership: science parks, innovation centres, university-industry centres, continuing education programmes, industrial liaison offices, industrial advisory committees and last, university companies.

Most of these strategies have been recently adopted in Ireland, as one can see it through various experiences:

- the National Micro-electronic Research Center at Cork University;
- the Plassey Science Park at the NIHE (Limerick);
- the Industrial Advisory Council in Dublin;
- the incubator factory system at Galway University;
- the University Industry Centre at UCD Dublin..

The Danish "Project Office"

For Hansen (11), the cooperation between industry and engineering schools in Denmark seems to concern three main areas:

- the practical training of undergraduates;
- the cooperation in research and development;
- the help of industry to the university with the renewal of its equipment.

The last few years have brought important changes in these fields.

The new "Project Office" of the Technical University may prove to be particularly important. Indeed, four years ago, the Technical University and the Engineering Academy established their Project Office with the purpose to increase the interaction between industry and the engineering schools. The Project Office introduces itself as follows: "the Project Office will assist in locating staff members for project participation from more than 60 technical university departments. The staff members can act privately as well as on department basis."

The Project Office features a database giving the names of staff members as well as names of other experts and their specialities. The Project Office uses the "Systematic Process for Idea Development" for supplying ideas to industrial companies. It will also assist in obtaining EEC funds as well as other funding for projects.

The French Way of Cooperation

From an historical viewpoint, it is interesting to observe that the first and most important schools of engineering (the Grandes Ecoles) were founded in France with the specific aim to educate and train engineers capable to design and manage projects for the State or for the beginning industry.

The 165 French Schools of Engineering have very close contacts with industry:

- students must do practical periods in industry;
- most of the professors are working in industry;
- research projects are jointly developed;
- firms pay for continuing education courses;
- etc....

Recently, many Schools of Engineering developed spin-off companies (for example Ecole Centrale in Lyon). They also created incubator factory systems (in Grenoble, Marseille, etc.).

If consulting is not really well developed in France (6), nevertheless new approaches allow the Schools of Engineering to assist firms (one can mention here the dynamic role of the Compiegne University of Technology).

Another example of this new trend can be found in the partnership recently established between the French firm Thomsom CSF and the University Pierre et Marie Curie. Both institutions decided for instance to create and to manage, jointly, a new course (DEA) in electronics.

But the most important decision to take in account is the recent creation of the "FIRTECH Poles." FIRTECH means "Formation des Ingenieurs par la Recherche dans les Technologies Diffusantes." In France only 5% of the 13,000 annual graduates in engineering are doing research and do postgraduate studies (Ph.D.) in the USA. That was the reason why the Government decided, in 1985, to propose a new cooperative scheme based on the creation of FIRTECH Poles (12).

These poles or parks associate, in certain regions, scientific universities, schools of engineering and innovative industries. Ten FIRTECH poles have been created in 1985, especially in Paris, Grenoble, Compiegne, Nancy, Toulouse, and 13 million francs have been put in the scheme by various ministries.

One of the aims of the FIRTECH poles is to increase the number of engineers doing applied research. For that purpose, people can get special grants ("bourses CIFRE"), if they do their Ph.D. work in cooperation with industry.

Another aim of the FIRTECH poles concerns the creation of new firms: the FIRTECH poles can be considered as incubator systems.

Each FIRTECH pole has to organize an information and documentation service for industrial laboratories. They are also working on international bases, especially on European projects like ESPRIT or EUREKA.

The COMETT Program: The European Approach

In July 1985, the COMETT Programme has been presented by the responsibles of the European Economic Community. This new common programme has been mainly decided in order to promote a European dimension within the University-Industry cooperation (13). It concerns all fields of higher education.

The COMETT Program includes 5 main actions:

a) The creation of a network of University-Industry Associations for Education and Training

150 Associations will be supported until 1989 with the possibility for each partnership to get 50,000 Ecus (approx. 50,000 dollars).

b) The development of a programme of exchanges between University and Industry within the European Community

These exchanges will concern:

- students who want to do practical periods in industry, in another European country; 2,000 students will be helped in 1987 and 5,000 in 1989;
- professor from universities who want to develop industrial experience within European firms; 200 professors will be granted in 1989;
- people from industry who want to spend two terms within European universities; 200 persons will get money for such an experience in 1989.

c) The development of joint projects for education

These projects have to be presented by European firms in cooperation with European universities (of other countries). The aim, behind the development of the partnership seems to be the rapid diffusion of the more advanced research results.

Three main projects will be supported between 1987 and 1989 with 500,000 Ecus per project.

d) Joint action for the creation and development of European distance learning systems, and for the training of professors and teachers.

Multilateral projects based on the use of new technologies will be retained, especially those whose

aims are to improve the education and training of educators and staff of European firms.

Three main projects will also be supported between 1987 and 1989, with 400,000 Ecus per project.

e) Lastly a complementary programme, including exchanges of experience, comparative studies, surveys, study visits and also the creation of a European database concerning the corporate-university partnerships.

The COMETT Programme is not the only one supported by the European Community. In the past, the Brussels administration financed the exchanges of students and the creation of joint courses (the Joint Study Programme scheme).

This successful programme encouraged the European managers to go further and to try to strengthen the links between University and Industry in Europe.

One has also to take in account the fact that the European Community supported recently new research and development programmes, like BRITE and ESPRIT. Many European universities contributed, with industries, to these programmes. The new EUREKA Programme, concerning a larger group of European countries, will provide other opportunities for universities to work in cooperation with the more advanced industries.

Toward New Educational Responsibilities

In a recent issue of "Engineering Education," which is the Journal of the American Society for Engineering Education, (14), Fred Garry, from the General Electric Company, says that

"industry needs and must help provide for more research on campus aimed at achieving:

- significant breakthroughs,
- cross-disciplinary fertilization,
- ties between product and process technology,
- teaching bright people how to conduct research."

He adds, "we in industry, must work with academe to provide the young engineers who develop under our mutual care a similar perspective on how modern engineers are required to perform." He especially points out the gap in the engineering curriculum and the industry's needs for continuing education.

In another issue of "Engineering Education" (15), J. C. Williams, Dean of Engineering at Carnegie-Mellon University recognizes that there is a major thrust toward closer cooperation with industry and that new classes of research activities move away from traditional faculty strengths. But, he rapidly asks himself: "can universities respond to this challenge without irreversibility altering their basic nature? Responding to his own question, he suggests what universities cannot do and what they can do, and also what they should be cautious about.

The road to successful University-Industry cooperation has historically been rocky. And University-Industry interactions have not been as productive as possible because of a mutual lack of understanding of each other's culture.

It seems necessary to emphasize several concepts which can be the basis of new partnerships.

a) The professionalisation of higher education

Education and research at the university level must be much more finalized than previous. They must be based more on the satisfaction of the industry and society's needs;

b) The complementarity within the partnership

We need much more integrated programmes in education and research. The partnerships must be based on a real complementarity and an effective synergy, which means a good understanding of each other's culture and of each other's competency;

c) The diversification of project and activities

It is becoming more and more difficult to separate the various components of the "knowledge industry." The various examples shown in the communication give some evidence of this diversification.

d) The human resource use

Nothing can be done without a strong motivation of students, professors, researchers, industrialists, etc. The partnership must not be decided between two "bureaucracies" but it has to be the real decision of people wishing to do that and to transform their society.

e) The creation of new schemes and new structures for "co-education" or shared education

These new schemes that have to be imagined, will certainly modify the transfer of knowledge and know-how in the future.

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The main reason of supporting and developing the partnerships between University and Industry resides within the gap between our traditional schemes in and for education and the rapid changes of the technologies and the needs of society. People in Europe seem to understand this crucial situation and they certainly are trying to solve the problem.

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PART-TIME STUDENTS: RULE OR EXCEPTION?

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Introduction

During the last three years the German Government financed a voluminous study on whether and how part-time study should be encouraged by German Universities. (1) Based on findings, of which I hope to give you some idea, my proposition is, that our universities, without knowing it or doing anything about it, are already teaching to part-time students, and increasing percentage of our students working at the same time as they go to university. Thus we are catching up on a development which has been going on in many other parts of the world like European countries, Latin America, Canada and the USA. (2) It means that the full-time students become the exception rather than the rule at least for most large city universities. But we can also see some universities reaching out for the large cities to recruit part-time students as is the case in Indianapolis, where both the University of Indiana and Purdue University offer courses in the training rooms of in-city supermarkets. (3) So far, research and discussion on the implications of this development is rather limited. I therefore welcome this opportunity for an exchange of ideas and experiences, and I welcome you as partners in a discussion on a much neglected but very important topic.

Part-time studying the rule?

Of course I worked when I was a student, for example as a builder's helper in a construction company and as a helper in the

federal tax office. And since I did this as well as most of my fellow students I have always accepted it as normal that most of my students worked as well. However, this type of earning extra money and gaining extra experience is not what I am concerned with here. Rather it is the new phenomenon of part-time students, i. e. students who dedicate more than a third of their time to working on a job. This represents a new type of student in our universities: a type of student, which might always have existed as an exception but which is now becoming the rule or standard.

Let me tell you about three experiences which acquainted me with this phenomenon:

- Ever since I came to Frankfurt I have blocked my seminars, i.e. instead of weekly periods of 90 minutes we would meet for a Friday afternoon and Saturday morning 3 - 4 times during the semester. Both the students and I preferred this because it allowed far more motivation and interest to build up, provided for the establishment of a better working climate and for deeper and more intensive discussions. Usually these seminars attracted students, who were particularly interested in the topic. Last year, however, the situation was different. More than a third of the participants were not interested in the topic at all. They only attended, because it was offered on weekends and they were working full-time! Needless to say it was very hard to integrate these students.
- In my last class on macro-economics students did projects for 4 weeks. Then they presented the results of the work on

posters in a project market. One group attracted my attention particularly. Each of the 4 posters showed a high intellectual standard but somehow they did not fit together. When I inquired further, I learned that the group had had trouble working together because half of the group worked on night shifts while the other half worked during the day time!

- January 1985: I accompanied a Brasilian colleague through the campus of our university. The time was 7:30 p. m. and as usual at this hour the campus was empty and few lights were lit in the buildings. Showing great surprise she asked. "But where are the students?"

August 1985: The same colleague showed me around her campus, the Catholic University of Sao Paulo. It was about the same time of the day but what a difference! The streets around the university were buzzing with life and so were the buildings of the university. Lights and people everywhere. Classrooms, corridors and cafes were crowded, all book stores, copy shops and offices were open.

As I was told, evening classes here had started in 1979 and were considered second rate in comparison with morning and afternoon classes. Since then the picture has changed completely: today many morning classes have to be cancelled and the demand for evening classes, which run until midnight, is highest. The university did a complete turn about to adapt to the need of part-time students, adjusting class, office and library hours, curricula and teaching.

This is how I came to ask myself: what has more future, what my Brasilian colleague observed in Frankfurt or what I observed in Sao Paulo?

Some data from a class in macro-economics at the J. W. Goethe University, Frankfurt, F. R. G.

These experiences have intrigued me. Is there more to it than just the fact that today more students have to work more than in my day? I therefore included a few questions on jobbing in the evaluation questionnaire of my macro-economics class. The results were more than astonishing to me.

When you look at Table 1 you will see that there were only 7 percent of the students in this class who were not working while 45% worked on a regular basis during the semester and a total of 84% worked regularly during the year.

SOME DATA FROM A CLASS IN MACRO-ECONOMICS
AT THE J. W. GOETHE-UNIVERSITY, FRANKFURT, F. R. G.

Table 1: Working while studying (N = 82)

	N	%
Working during vacations and during the semester	37	45
Only during vacations	32	39
Only during the semester	4	5
Irregularly	3	4
Neither during the semester nor during vacations	6	7

In table 2 you see 37 percent of these students worked more than 13 hours or 2 days a week and 15 percent more than 20 hours, which is no small matter.

Table 2: Number of hours of work during the semester (N = 41)

	6 or less	7 - 12	13 - 20	more than 20	irregularly
N	11	13	9	6	2
%	27	32	22	15	5

Table 3 shows, that of all the students working during vacations, 87 percent worked for more than 4 weeks thus showing that what they are working for is more than just extra spending money. This seems to be affirmed by the following results.

Table 3: Jobbing during vacations (N = 69)

Weeks	N	%
less than 4	9	13
4 - 5	11	16
6	9	13
more than 6	40	58

Thus Table 4 shows us that 50 or 62% of the students depend on financing their studies by working, 19 or 24% having this as their main financial resource.

Table 4: Financing of studies (N = 82)

	mainly	partly	occasionally	none
parents	41	17	2	22
spouse	1	1	2	78
scholarship	12	4	1	65
job	19	31	22	10
other sources	6	11	10	55
no answer	3	--	--	--

Data from other investigations seem to point in the same directions as my findings. (4) They show, that not only is the length of studies increasing, but also the percentage of students who work for a living.

If this is so, then we teach and plan on the basis of an hypothesis which is no longer true and we must rethink our practice and maybe change our ways. For this we need more information based on research about the phenomenon (5) and discussions to find out the best ways to deal with them. Let me offer the following proposition as a trigger:

Some propositions concerning the teaching of part-time students

1. Part-time students are replacing the full-time students as the normal students in our universities. Already today more than 60 percent of the students are part-time students in our big city universities and up to 30 percent hold a full job.

2. Universities do not make any allowance for this change. They still run on the false hypothesis that all or most of their students are full-timers.

3. Part-time students have developed their own survival strategies to deal with this problem. Many of these are counter productive to academic learning, but the inflexibility of the universities encourages this.

4. As the number of part-time students increases so does the danger that academic standards cannot be upheld.

5. We must, therefore, increase our research on this phenomenon and evaluate experiences of different institutions in different parts of the world to come up with models and solutions which can help us to deal more adequately with the issues involved.

Some Open Questions

To finalize this expose let me formulate some themes and questions, on which we will have to work:

Research:

Too little research is available on the differences between part-time and full-time students, which could serve as a basis for changes in institutions and in teaching and learning. For these we would have to get answers on such questions as:

1) Where is their identity? On the job or in their studies?
2) What are their study habits?
3) What subjects do they choose?

4) Why do they work, why do they study?

5) What are their needs?

6) What use have their studies for them?

Institutional aspects

Though an increasing percentage of the student population is constituted by part-time students, universities particularly in Germany do not make any special provisions for these students. Important questions are, for example:

1) How can the quality of the process of teaching and learning be kept up?

2) How can the administration and the teaching staff deal with students in a more differentiated fashion so that working students have more access to courses and facilities?

3) Why do some universities require students to do courses of study in a restricted amount of time which is only feasible for the full-time student?

4) What proposals can we make on how to provide for giving credit for experiences and learning on the job?

Practical experiences

The learning of part-time students is different from full-time students and so must be the teaching, because often

- they are older and more practice-oriented
- more motivated and more efficient in the planning of their time
- more active and less willing to listen to monologues
- more experienced and less willing to accept things at face value, i. e. they are more critical. Therefore, there are

many important questions to be answered when one wants to teach these students well, as for example:

- What teaching strategies should be used and what learning situations should be provided for them?
- How can their work experience be integrated into their learning and their research?
- How can the usefulness of their studies be increased?

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EXCELLENCE AND THE ADULT PART-TIME STUDENT

Barbara Mayo-Wells

The University of Maryland University College

Introduction

As the 18- to 22-year-old cohort shrinks and fewer traditional college students are available to enroll, many institutions are finding adult part-time students increasingly attractive. In pursuing these students and their tuition dollars, some institutions forget, or do not realize, the special needs of this group; and some institutions overlook or ignore their responsibility to meet these needs. But they do so at their peril, since adult students embody consumerism at its most extreme: They seek the greatest educational value — and this means academic excellence, not simply expediency — for their tuition investment, are not hesitant about making their wishes known, and when dissatisfied will promptly vote with their feet, walking out the door of an institution that serves them poorly and into the doors of those institutions that meet their needs.

Serving these students certainly need not require an institution to compromise its standards of excellence; quite the reverse. But serving them effectively does raise a number of challenges, particularly for institutions that have traditionally focused on the needs of younger, full-time students. The characteristics of adult part-time students, at least those in the U.S., have been well documented, and a summary of these characteristics can indicate the nature of the challenges they present to the institutions in which they enroll:

1. Adult part-time students (for convenience hereafter referred to as APTs) are likely to be 25 or older. With the diminution of financial aid for traditional

students, this age is likely to drop, because some younger students will find themselves unable to bear the costs of full-time study. Their age challenges an institution to find excellent faculty who are not threatened by students older or more experienced than themselves, and who can incorporate into the curriculum the vast noncollegiate learning that APTs bring with them to the classroom.

2. APTs are slightly more likely to be female than male, although the cadre of "returning women" seems to have peaked several years ago. The preponderance of female students, especially in evening classes, challenges the institution to provide adequate safety while those students are on campus: well-lit walkways, convenient parking are among the special needs.

3. APTs are likely to be employed, either full- or part-time. Those in certain curricula (such as the computer-related fields) may be more knowledgeable or better qualified than their instructors! And those in any field may find that at times their work assignments impinge upon study or class time. The institution needs to be able to respond flexibly to such situations. For instance, being flexible in accepting late assignments is one way of meeting the needs of the APT without in any way compromising academic quality.

4. APTs are likely to be married; about half are parents. Their family responsibilities frequently interfere with their studies, and not nearly on so predictable a basis as do job responsibilities. By encouraging faculty to be reasonably flexible in dealing with APTs' domestic crises, the institution can help to ensure that the students will turn in the best academic performance of which they are capable.

5. APTs are likely to "stop out" as career, family, or financial crises arise. It is difficult for the institution to differentiate between the genuine dropouts, who do not plan to return, and the stopouts, who intend to resume their education in the indefinite future. The institution needs to take into account the fact that a

dropout can be converted into a stopout, and then into a graduate, if reenrollment policies are sufficiently generous.

6. The preceding factors mean that APTs are students, not scholars. Though by no means unimportant, school is at best their third priority, with job, family, and often community responsibilities coming first. This does not mean, however, that APTs are unconcerned with academic excellence. On the contrary: They want to, and frequently do, achieve outstanding academic records. They want their coursework to be of high quality and of immediate relevance to their lives. They want their instructors to be not just competent, but excellent, teachers. They want to be proud of the degree they are earning.

7. Many APTs have rusty academic skills. Those from certain academic backgrounds may be not just rusty but seriously deficient. To help these students achieve the academic excellence of which they are capable, the institution needs to provide appropriate support services.

8. Many APTs, especially the older students and those who are new to college, suffer performance anxiety. Provision of counseling services is one way of helping students overcome this barrier to academic performance.

9. Part-time students tend to earn higher grades than their full-time peers, and adult students outperform those of traditional age. In this regard, the APTs are an asset rather than a challenge to the institution.

10. APTs feel a sense of urgency and are in a hurry to complete their degrees. Thus they tend to pile on courses as they come closer and closer to completion. Their urgency makes them impatient with course prerequisites and sequencing. The institution should give serious consideration to its curriculum: Some prerequisites, and some course sequences, may be inappropriate for students with substantial life experience; other prerequisites and sequences need to be stringently maintained in order to preserve the rigor of the curriculum.

11. APTs take a pragmatic, utilitarian approach to education. They are extremely goal-oriented. Most of them seek career advancement (not vocational training), and want their collegiate learning to be relevant to their career goals. Thus the institution is challenged to ensure that its course content and curricula are up-to-date (a computer curriculum without appropriate courses in graphics and computer-assisted-design, for instance, will do little to prepare graduates for the current job market).

An institution serving APTs must work to insure appropriate academic rigor, while at the same time seeing that students develop appropriate competencies and that students' learning is relevant both to a sound curriculum and to the students' needs. The institution must recognize, and provide means of meeting, the special needs of the APT -- which, as the preceding paragraphs have indicated, are not the same as those of the traditional 18- to 22-year-old, full-time undergraduate. It can do so through four avenues: institutional policies, the curriculum, the faculty, and support services.

Policies

In a variety of ways, institutional policies can be modified to help the institution effectively serve adult part-time students.

First, admissions standards should be reasonably flexible. "Stale" SAT scores or a 20 years out of date secondary school record are not adequate indicators of a student's current performance or ability. Even current SAT scores will not be particularly useful. Requiring a student who has been out of school for decades to take a standardized entrance test geared to currently enrolled secondary school students is tantamount to cruel and unusual punishment, and will yield results that do not predict the adult's future academic performance. Establishing a provisional status for adult students, who can then prove themselves within the first 12 or 15 semester hours, is a humane and eminently practical approach to the admissions

problem. Readmission and reenrollment policies should also take into account the tendency of APTs to stop out, sometimes for periods of several years, and should encourage their reentry into the academic world.

Second, policies should permit both the use of transfer credit and the evaluation of learning adult students have acquired in noncollegiate settings. To require students to enroll in classes simply to validate what they have already learned is an inordinate waste of resources. Institutional course-challenge exams, CLEP (or other standardized) exams, portfolio assessment -- there are a variety of means by which students' prior learning can be reliably assessed to determine whether advanced placement or academic credit (or both) may be appropriate.

Third, policies should encourage students' orderly academic progress while taking into account the facts that class scheduling and delivery may need to be altered to meet students' needs; that traditional course sequencing may not be appropriate; and that not all students are degree-seekers.

Fourth, degree requirements should hew to the same standards as for "traditional" full-time students, while providing some flexibility in meeting those requirements. There should also be a rational means of addressing the problem of course pre-requisites, so that students need not take courses simply to document that they know what they have already learned outside the classroom.

Curriculum

The curriculum, although carefully constructed, should not require students to march in lockstep through a cookie-cutter program. At many institutions, the general education requirements were designed to prepare youngsters to face Life. Adult students have already faced it head-on, and have survived. While they still need the breadth of knowledge most general education requirements seek to impart, they may not need to acquire it through the same series of courses. So the policy

on general education requirements might be modified, for instance, to permit APTs to study upper-level rather than lower-level courses in a variety of disciplines.

The pragmatism of most APTs means that the most popular academic disciplines will be those they perceive as helpful in advancing their careers. In fact, a small but not negligible percentage of APTs already have at least one undergraduate degree, and are seeking another in a field that will bring them career mobility. For these people, business management/administration is a sure winner. At present, so (despite predictions that the field is becoming saturated) are computer-related curricula, provided they incorporate the most recent technological developments -- a curriculum that is five years behind the needs of the workplace will quickly prove unattractive. The 25- to 45-year-olds are unlikely to seek out the humanities; the retired or about-to-retire, on the other hand, are often in search of personal enrichment, and for them history, literature, art, music, and drama have an almost magnetic appeal.

Certainly the curriculum should incorporate an adequate mix of upper- and lower-level credit, and appropriate rigor. It should also be subject to ongoing review: How do students use (and abuse) the curriculum? Does it have continuing relevance to the students' professional and personal needs?

Textbooks can pose a particular problem, especially in fields such as management and information systems, since the tone, level, and practical application of most college-level textbooks in these fields are written for inexperienced youngsters rather than for adults. (This problem also presents an opportunity for those faculty members who could appropriately write textbooks geared to the needs of students who already have practical experience.)

Faculty

Faculty must be screened and hired according to the same rigorous standards used in traditional programs. There is, however, a special need to orient the

faculty to the needs of adult part-time students and to appropriate pedagogical (or, more accurately, andragogical) techniques. The assertiveness typical of adult students, and their active involvement in the learning process, may prove disconcerting to faculty who have been accustomed to the greater passivity of traditional students. The APTs' motivation will be a delight to the faculty -- and their need for flexible deadlines (to accommodate crises at work and at home) may leave the faculty gnashing their teeth. Having a wide range of ages (and experiential backgrounds) in the classroom can prove threatening to some faculty members; but that diversity can also enrich the educational experience for students and faculty alike. Thus faculty can benefit from support and development in the form of skills workshops and consultation on strategies for improvement of teaching.

Support Services

These services can include logistical support and broader types of support. In the first category are such things as registration (which may need to be offered at times and places convenient to students, perhaps by mail and phone as well as in person), scheduling classes at locations convenient to APTs' homes or workplaces and during nonworking hours, keeping the library and bookstore open during hours when APTs can get there, providing safe and convenient parking, even providing childcare facilities.

If adult students are distracted by non-academic aspects of their lives, they will be unable to achieve the academic excellence for which they strive. Many institutions provide support services for their traditional students; with some modifications, these services may be appropriate for APTs as well. For instance, developmental (not remedial) services can help APTs improve their academic performance. These services should not be limited to tutoring, however, but should incorporate such study skills strategies as time management and juggling multiple roles. Academic advising should go beyond course-selection for curricular purposes,

and should take into account the students' career and life goals; advisors need training in how to work with adult students. Financial aid for adult students has been much neglected in the U.S.; these students often make enormous sacrifices in order to pursue their education, and surely they are deserving of financial help. The institution's fund-raising arm could seek out scholarship funds specifically for adult learners. For APTs, career planning services should go beyond what is available for traditional students, to include job-change strategies and supportive counseling for the unemployed and underemployed. Personal counseling services may need to address the needs of single parents and stress encountered in the workplace. However, such amenities as the student union and the health center are not likely to be used by APTs, and attempts to provide them with extracurricular activities — clubs, athletics, and the like — are probably doomed to failure because the center of the APTs' life is not their collegiate experience.

Conclusion

Because adult part-time students generally take a pragmatic view of education, the institution seeking to attract and retain the students must insure that its programs meet the students' perceived needs — without, at the same time, compromising the institution's own need to maintain the academic soundness of its programs. Maintaining this balance requires careful planning and constant self-scrutiny.

SUMMARY OF STRUCTURAL ISSUES DISCUSSION

Issues Facing Faculty Today

Robert E. Bernoff
The Pennsylvania State University

About fifteen people attended this session and discussed the following topics as Issues Facing Faculty Today.

- Students are very career oriented and many miss the point and importance of a broad general education.
- Faculty in many societies are not given the recognition and high level of social status which they expect.
- In some countries political interference has reduced faculty morale.
- The method and emphasis placed on teaching evaluations by students do not seem appropriate.
- Many faculty members report that their incoming students are poorly prepared, especially in the use of written and spoken language.
- There are not sufficient funds to support research and other scholarly work, particularly for new faculty members with no prior reputation in their field.
- There is great pressure for faculty members to publish, while at the same time, the view of what constitutes scholarly work remains rather narrow.
- Compensation for faculty members continues to be relatively low and lags behind the level of inflation. Faculty salaries have eroded in recent years.
- In many places part-time faculty members teach twenty-five percent of all classes, yet the policies concerning these faculty members, their status, and compensation are often poorly conceived.
- Many countries are developing programs for disadvantaged students. When the total number of spaces for college students is limited, how do you identify students who have the potential to be successful?
- Should a faculty member provide instruction at the level appropriate for the course or at a level which fits most students?

- Qualifying examinations are a very important factor in many countries. These examinations often pressure students to study to pass the examination without a broader concern for understanding the material covered.

- Student discipline problems are disruptive in some societies.

- A number of tenured faculty seem to "drop out" as active members of their institutions.

- In some institutions the policy (of many rules) is stifling creative faculty members.

- Some studies of British and Indian faculty members show that the job satisfaction of faculty members is very much dependent on their relationship with their immediate supervisor.

SUMMARY OF STRUCTURED ISSUES DISCUSSIONS:

Relations between Faculty and Administrators

Julie E. Porosky
The University of Maryland

- In many respects, faculty and administrators are in essentially adversarial roles.
- Increasingly, however, administrators are trying to be more sensitive to the faculty point-of-view.
- The conflicts between administrative and academic staff are occurring in a period of diminishing resources, both for higher education in general and for faculty in many disciplines.
- Most faculty have a great deal of general knowledge--more than administrators often give them credit for--and, perceiving themselves as broadly knowledgeable, they have a need to have a say-so in affairs of the institution that affect them directly or indirectly.
- There is a lack of agreement about what constitutes success in academia, and the criteria for success may not be well understood from one discipline to another or between administrators on the one hand and faculty on the other.
- Academic administrators do not always communicate as effectively as possible with the faculty. Communication is less systematic than in commercial organizations.
- Administrators should try harder to learn and use management principles in their dealings with faculty.
- Two means by which administrators can allay tensions between administrators and faculty:
  - Involve faculty more in governance
  - Make a point of complimenting faculty on special achievements
- Faculty often do not understand what goes into administration.
- Despite their general knowledgeability, faculty could be better informed about issues in higher education.
- Administrators should be sensitive to whether the climate of administrative decision-making is one of secrecy or openness.
- Where possible, decisions should be made at the lowest level, with the greatest possible opportunity for faculty involvement.

THE FACULTY: A CHANGING PROFESSION

Jack H. Schuster
The Claremont Graduate School

It is exhilarating to be a part of this IUT Conference and, as a special bonus, to be visiting a university celebrating its sixth centennial. The majority of American institutions of higher education, if one includes our thousand or so community colleges, have not seen the light of six decades, much less centuries! So, exploring the byways of the University of Heidelberg provides a healthy perspective for me, as one who teaches a seminar on the history of American higher education and who is accustomed to thinking of Yale, founded in 1701 as the third oldest college in North America, as an ancient institution![1]

I am very pleased to have this opportunity to share with you some of my thoughts concerning the changing condition of the American professoriate. I am particularly pleased to be able to meet with this important gathering of international scholars and practitioners, because I believe that my comments, while focused on the American professoriate, have important implications for the international academic community -- although your responses to my theses may disprove that hypothesis!

These are perplexing times for American faculty members, for they are caught up in a volatile period of change for higher education and for the academic profession. While it may be trite to suggest with Tennyson that the old order constantly changeth, nonetheless some eras are surely more stressful, more volatile, more replete with change and challenges than others. Consider, by way of context, that in recent years American colleges and universities have been bombarded by a succession of reports that have scrutinized American higher education more closely than at any time in decades.[2] Indeed, over the past two

years the United States has witnessed an outpouring of books and reports dissecting the faculty.[3] Some have centered on the undergraduate curriculum; in those reports, the tendency of the faculty to resist curricular reform is described and often sharply criticized. Other studies directly examine the faculty condition itself. Moreover, this barrage has come at a time when most American colleges and universities have been obliged to do their jobs as best they can with relatively fewer resources than they had become accustomed to in the previous era of expansion.

In the aggregate these reports have established that the American undergraduate curriculum has come unglued and requires not just patching up but basic reconceptualization and reorganization. We are advised that few college presidents, and still fewer faculty members, engage in educational leadership on their own campuses. Many of these reports have criticized the role and performance of faculty members. Indeed, the faculty is receiving many different messages which, taken together, subject faculty members to an intensive crossfire and underscore the perplexing circumstances now facing the academic profession. Consider...

* One set of critics urges: "Restore a cohesive, integrated curriculum, one grounded in the traditional liberal arts. This unruly cafeteria line of course offerings can be tolerated no longer!"

* "And while you're at it," other critics implore, "reemphasize the urgency of inspired teaching. You must somehow find more effective ways to motivate undergraduates preoccupied with careerism."

* "Yes of course teaching is important," still other critics enjoin, "but mere teaching will no longer suffice here for retention, promotion and tenure.

Productivity! Yea, articles in refereed journals, monographs and books -- there will be found this campus' rejuvenation and fame!"

* Still other voices, including the prestigious Business-Higher Education Forum of the American Council on Education, as well as numerous governors and state legislators, sound a different warning: "Behold, the American economy is losing ground to foreign competitors, and higher education must better train a new generation of economic warriors." Their prescription, predicated on the nation's economic vulnerability, is to encourage tighter linkages between universities and industry; in so doing, they espouse a more narrow, instrumental view of higher education as a means to enhance the nation's ability to compete effectively in the global economic "wars".

* Further still, critics who deplore higher education's elitist tendencies -- including a host of public officials -- entreat faculty members to be more accommodating to the urgent need to expand access to higher education, and if that necessitates more and more remedial education for underprepared students, then so be it!

* Yet at the same time the faculty is routinely rebuked for compromising academic standards by tolerating slothful students whose academic skills are woefully inadequate and whose intellectual interests are, to put it mildly, hard to ascertain.

The American academic profession is entitled at the least to seek a brief moratorium and to inquire: Can America's faculties legitimately be expected to reform the curriculum, rejuvenate teaching, increase scholarly productivity, tighten the linkages with industry, expand access and promote rigor? And, not merely is the faculty being asked to accomplish all those things, but they are

being told to do so simultaneously and with demonstrably too few resources. This is not an easy assignment that has come the faculty's way!

My purpose today is to place in a broader perspective the faculty-related findings and recommendations reported in this melange of studies. In so doing, I shall emphasize the conclusions drawn from the research in which I have been engaged. Then I shall speculate about implications of these findings not only for the American higher education enterprise but for academics in other nations as well.

If I am able to help place in clearer perspective the predicaments that confront the American faculty, I believe I will have accomplished a useful purpose, for it does not suffice to think of faculty members, as is too often the case, simply as impediments to change, as obstacles to be overcome. The faculty's own predicaments must be more clearly seen and appreciated if, ultimately, improvements in the quality of the teaching-learning process can be effected. In other words, any consideration of improving university teaching -- the overriding concern of this IUT conference these past dozen years -- must take adequately into account all aspects of the sine qua non for improving teaching, namely, the teacher.

To be sure, whatever I have to say will not dispel faculty frustration nor squelch professorial grousing; in that regard, the faculty reserves its rights! There is, after all, more than a little truth in the observation of Christopher Jencks and David Riesman who wrote two decades ago that "Academics are neither a tolerant nor an easy-going species." Their "feelings of irritation and frustration" are "apparently congenital."[4] In a similar vein, Stephen K. Bailey, a distinguished political scientist and a leading authority on higher education politics, once noted that campuses are "incubators of anxiety."[5] So we, too, acknowledge faculty members' proclivities. The challenge is to delve beyond the sometimes shrill faculty protests to ascertain the reality of the faculty condition. To do this, I now proceed to develop five themes:

First, the condition of the faculty -- its quality, well-being and morale -- is central to the university's ability to accomplish its tasks.

Second, the observable condition of the American professoriate has deteriorated significantly in recent years.

Third, faculty morale is weak, a condition exacerbated by rapidly shifting campus values that are contributing to discord and frustra-tion on many campuses.

Fourth, higher education is losing its ability to compete effectively with more lucrative professions in attracting the ablest young people to academic careers.

Fifth, the tension between teaching and research grows apace and further complicates academic life.

Faculty Crucial to Higher Education's Missions

I will dwell but for a moment on the first proposition, namely, hat the well-being of the faculty is critical to the ability of a college or university, in America or elsewhere, to carry out its missions successfully. Without going to the extreme of asserting that "the faculty is the university," it would be well to remind ourselves that the talent, training, vitality, and social conscience of the faculty are indispensable ingredients of the ability of each college or university to accomplish its major tasks. Accordingly, the overriding duty of every institution of higher education is to place a competent faculty, and the scholarly environment they create, at the disposal of students, and to provide the resources and encouragement needed by that faculty to meet their teaching, research and public service responsibilities.

Moreover, American faculties are entrusted with the education of about two-fifths of every age cohort of young people, and they touch the lives of millions of other persons in less intensive encounters. They train virtually the entire

leadership of the society in the professions, government, business, and, to a lesser extent, the arts. They train the teachers, clergy, journalists, physicians, and others whose main function is to inform, shape, and guide human development. The United States, as with many other nations, depends upon the faculties also for much of its basic research and scholarship, philosophical and religious inquiry, public policy analysis, social criticism, cultivation of literature and the fine arts, and technical consulting. The faculties through both their teaching and research are enormously influential in the economic progress and cultural development of the nation. In short, the faculties are a major influence in shaping the destiny of the United States, and that nation, in turn, has a clear and urgent interest in assembling and maintaining faculties comprised of adequate numbers of talented, well-trained, highly motivated, and socially responsible teacher-scholars.[6]

The Decline of the Faculty Condition

This paean to the faculty constitutes the basic premise upon which the following discussion is based and leads to my second proposition, that over the past decade and a half the conditions in which faculty members find themselves have deteriorated significantly.

As I have indicated, I have been engaged over these past several years with my distinguished colleague at Claremont Graduate School, Howard Bowen, in a study of the condition of the American professoriate. This project, which Professor Bowen initially conceived, was generously supported by the Carnegie Corporation of New York, the Ford Foundation and the Exxon Education Foundation.

Our study has been ambitious. We attempt in our book, American Professors, to provide a detailed profile of today's college and university faculty members, with emphasis on how their characteristics have changed since around 1970. We try to

bring together the relevant evidence that bears on the status of faculty compensation and conditions in the work environment. In addition, our book reports findings drawn from 532 interviews conducted at a sample of 38 colleges and universities of all types. We engage also in academic marketplace projections, estimating the number of new hires and departures from the profession over the next 25 years. We conclude our book with numerous recommendations directed at government and at institutions of higher education themselves.

While it is not possible to describe our findings in detail or to develop adequately the evidence on which we base them, I do want to set forth several of the salient findings. I will comment on two such conditions.

First, the work environment. We found faculty working conditions throughout the nation to be deteriorating steadily, from the reduced availability of secretarial and clerical support to declining budgets for libraries and research instrumentation, from the quality of ill-prepared students to sharply reduced budgets for faculty travel, from cramped office space to an enormous backlog of campus deferred maintenance projects to a host of well-intentioned campus programs for faculty evaluation that have sometimes been conducted with far too little sensitivity. In too many instances, faculty concerns have been subordinated to those of other worthwhile campus claimants in the competition for perennially scarce resources.

Faculty compensation is a second factor. Money is <u>not</u> by any means the most important issue to faculty members. Any faculty member who believes that salary constitutes the most important ingredient of academic life is not smart enough to have become a faculty member in the first place! Rather, it is the intrinsic rewards of academic life that have always been of primary concern to those attracted to academic careers. But neither is compensation unimportant. Here are the most important developments:

Expressed in terms of real earnings adjusted for inflation, compensation for college and university faculty has dropped sharply -- about 14 percent since 1970. In fact this constitutes a steeper drop than that experienced by any other major non-agricultural occupation group. This is a substantially greater drop than that experienced by government employees, by blue collar workers, or, for that matter, by elementary and secondary teachers who are generally thought to have fared so poorly. It is true that over the past five years the bleeding may have been staunched with a modest reversal now becoming evident. These gains include a 2.5 percent increase vis-a-vis inflation for 1985-86, the largest increase in real earnings for American faculty members in the past quarter century.[7] Even so, faculty compensation remains far below the historic highs reached in 1972-73. More disquieting, the ove[illegible]pply of faculty in most fields augurs poorly for faculty compensation over the next decade.

In sum, compensation for faculty, by American standards, has declined, and the quality of the academic workplace continues to degenerate.

Weakened Faculty Morale

My third proposition holds that faculty morale is weak and that this condition is exacerbated by rapidly shifting values on many campuses.

Let it be understood that trying to ascertain and interpret the true mood of the faculty is not an easy task. Neither sensitive interviewing nor broad-based questionnaires can avoid distortions by faculty members who may be motivated "to send a message" that all is not well in academe. Moreover, in our efforts to understand the faculty, we must not lose sight of the fact that there is no such thing as "the faculty," except in the most general sense; the variations -- among 3,100 campus settings and the almost seven hundred thousand faculty members who work there -- are daunting. Nonetheless, some generalizations are justified.

Faculty morale is not good in most settings. Poor faculty morale is attributable in no small measure to the conditions already described: deterioration in the quality of the work environment and the faculty's sharply reduced earning power. Other factors bear on faculty morale as well. To mention but two, the decline of faculty mobility, compared to the situation that prevailed until the 1970's, has contributed to a sense of "stuckness." Further, we found many faculty members to be disgruntled over campus differential pay policies whereby faculty in high demand fields at many campuses are being paid more than faculty in fields for which student demand is soft. Differential pay has always existed, but not nearly to the extent that now obtains, and the Orwellian consequence -- that within a given faculty, some members are "more equal than others" -- causes much distress, particularly, we found, among senior arts and sciences professors who in some sense comprise the heart of the faculty but whose offerings appear to be out of favor with career-driven students.[8]

We found also that the reward structure on many campuses is shifting. Most campuses, able to hire very good faculty members in this strong buyers' market, are insisting on scholarly productivity, not merely effective teaching, as a prerequisite for retention, promotion, and tenure. For many campuses -- particularly, of course, the research universities -- the emphasis on research productivity is not a new development. But for many other campuses, long committed primarily or even exclusively to effective teaching, a "new gospel of research" has taken hold.[9] These changes have led to heightened anxieties and sometimes result in considerable ill will among faculty members.

All of these factors, among others, contribute to a level of faculty morale that leaves much room for improvement. In all, we found faculty morale to be reasonably good at only a third of the campuses we visited. In the main these exceptions are found among the stronger research universities and the more

selective liberal arts colleges. At those relatively fortunate institutions, faculty esprit appears to be, on the whole, good, and even excellent at one campus. At the same time faculty morale at most of the institutions we visited -- 25 of the 38 -- ranges in our estimation from fair to poor to very poor.

While our findings suggest neither a dramatic shift in faculty morale in recent years nor a uniformly bleak outlook, we did find widespread anxiety and apprehension. We concluded that, all in all, the faculty tends to be dispirited.

As it happens, our findings about the faculty condition appear to be consistent with those recently reported by Ernest Boyer of the Carnegie Foundation for the Advancement of Teaching.[10] I find the convergence of these findings, from independent studies using different research methodologies, to be both reassuring and disturbing -- reassuring in the sense that I am more confident than ever that Howard Bowen and I did not overstate the seriousness of the faculty's circumstances, but disturbing, as well, because the faculty condition, thus depicted, calls for a potent remedy -- at a time when remedies are not easy to come by.

Academic Careers' Declining Competitiveness

My fourth topic addresses an emerging, serious problem in the academic marketplace. The problem stems from evidence we found that the academic profession is losing its ability to compete successfully with other professions and occupations -- particularly law, medicine and business -- in attracting the very ablest young people to academic careers.

Here we need to address both the supply and demand dimensions of the situation. First, the matter of supply.

At present the faculty now in place is almost certainly the very best ever to inhabit American campuses. And given the relatively small number of new faculty

hires in recent years, recruits on the whole have been very good. On the other hand, we amassed considerable evidence which has led us to conclude that American colleges and universities will have a very difficult time in the proximate future attracting a sufficient number of highly capable persons into academic careers.

This conclusion is based on trends found in a variety of populations:

- career preferences of college freshmen;
- career preferences of seniors at highly selective colleges and universities;
- our campus visits which included numerous interviews with provosts, deans of faculty, and department chairs intimately involved in the recruiting process;
- our survey of department chairs at 400 leading graduate departments;
- our survey of Phi Beta Kappa members, chosen from 1945 to 1983, to determine patterns of career interests; and
- our study of career choices of American Rhodes Scholars since 1904.

Time does not permit describing that evidence in detail; it must suffice to report that most of the evidence strongly suggests that highly talented young men and women are choosing competing -- and more lucrative -- professions in much larger proportions than was the case a decade and more ago.[11] This decline in interest surely can be explained in part by the small number of tenure-track academic appointments available in recent years; the emergence of more job openings unquestionably will attract more interest among able young people. Even so, it is apparent to us that unless academic careers can be made more attractive, a large percentage of talented undergraduates who in former days would have pursued academic careers will opt not to do so.

Well, you may properly ask, so what? Surely no great harm is done if such talent flows into other leadership roles in a given society. After all, talent surely is in short supply in virtually all fields of endeavor, and any society

undoubtedly will benefit in different ways if these "defectors" from would-be academic careers enter other professions and occupations.

Quite so, up to a point. But now consider the demand side of the equation, for it is the huge gap between supply and demand, shortly to emerge, that will create a problem with very serious consequences for the United States.

We found -- actually, these are Howard Bowen's original projections -- that something on the order of 500,000 academic appointments will need to be made between now and the year 2010 to fill anticipated vacancies. This surge in the number of openings will be a function of two parallel developments: one, retirements, as the large cohort of current faculty members, hired during the explosive growth period of the late 1950's and 1960s, is now nearing retirement age; and, two, demographics, specifically, the upswing in college enrollments anticipated by the mid 1990s as a result of the so-called baby boomlet -- that is, those youngsters now crowding into American elementary schools who will be graduating from secondary schools in a decade, thereby creating the need for still further faculty hires. Most of this hiring will be compressed during the fifteen years between the mid 1990s and 2010, for relatively few openings will materialize in most fields prior to 1995. In all, a half million new hires amounts to a prodigious amount of hiring. Considering the fact that the entire faculty today numbers about 460,000 full-time and another 220,000 or so part-time faculty members, you will see that the need to hire a half-million faculty members is tantamount to replacing a sizable proportion of the existing professoriate.

Thus, a terribly difficult job lies in wait for American colleges and universities. This challenge of developing a supply of well-prepared faculty members adequate to satisfy future demand is complicated by three further factors:

One, it ordinarily takes a long time to earn a Ph.D., the conventional credential for faculty members at four-year institutions. On the average, in fact, it takes about ten years between one's baccalaureate degree and the time a Ph.D. is

earned. Thus, a long lead time is needed. This fact suggests that highly able undergraduates must now decide to enroll in graduate arts and sciences studies -- at a time when the market is very weak in most fields. Unless the current cohort of undergraduates make that counter-intuitive choice, and makes it now, they are not likely to be available, and fully qualified, when the academic labor market begins its dramatic turnabout.

Two, most college and university leaders are preoccupied with more pressing, immediate problems, namely, how to survive another decade when students, and finances, will be scarce.

Three, most institutions of higher learning, as I have suggested, are currently blessed with their best faculties ever, and this highly fortunate circumstance tends to obscure the fact that a menacing problem looms ahead.

So, the emerging problem of a serious supply-demand imbalance is not yet on the agendas of American university leaders, public policy makers, or prospective academics -- although the attention our book is beginning to receive may help to change that.

The Teaching-Research Dilemma

And now I reach my fifth and last point: in considering ways to enhance quality in higher education, it is essential to achieve a proper balance between teaching and scholarship, but it is critically important, as well, to take into account the conditions under which many faculty members labor. The reports to which I referred earlier
call for reforms in the curriculum and in the teaching-learning process. Because some of these reports are directed explicitly at faculty members, I want to try to say something useful about the tension between teaching and scholarship.

The challenge of determining and implementing an appropriate balance between teaching and research is one of the paramount challenges today confronting faculty members and their institutions. It is the challenge of improving quality of the educational process in the face of intensified and often conflicting demands on faculty, as suggested at the outset of my comments.

But what more can be added to the torrent of words about the proper weights to be accorded teaching and research? I fear that I can contribute little new to the sometimes heated debate concerning the appropriate relationship between the two. Nonetheless, five brief points growing out of our own research may deserve mention.

First, we should remind ourselves that the tension between teaching and scholarship is a long-standing one. The meanings change over time; the boundaries defining what constitutes legitimate "research" or "scholarship" shift. So, in that sense the parameters of the conflict are perpetually in flux. Nevertheless, the tension between teaching and scholarship has always been present, at least throughout this century. In other words, little is new in this regard.

Second, we take the position in our book -- hardly a novel position -- that faculty involvement in research is desirable, not merely for its own sake, but because such activity tends to enliven faculty members and to inform the content of their instruction. We urge, admittedly as much as a matter of faith as on the basis of any persuasive empirical evidence, that teaching and scholarship are fundamentally compatible rather than antagonistic.

Third, the issue, it follows, is almost always one of balance. But of course, you say. After all, everything is a matter of balance. Well, how does one achieve an appropriate balance between the proportion of faculty effort committed to teaching and that directed to research or scholarship? Quite obviously, there is no universal formula that could apply to many types of institutions. I certainly would not be so bold as to suggest a universal prescription. But I am convinced that a headlong plunge toward emphasizing research, which is taking place on many

American campuses, is likely to result in unintended and undesirable consequences. My concern has deepened as a result of our findings, and I am persuaded that college administrators have tended to underestimate the divisiveness and bitterness that shifting values on campus have engendered.

Fourth, there are limits, I believe, to what faculties can accomplish under conditions prevailing in higher education. As noted, faculties at a great many colleges and universities are under duress. The doctrine that the faculty should be able to do substantially more with less may be popular with some outsiders -- or some persons inside academe, too, for that matter -- but it is a pernicious doctrine.

Fifth, whatever else may be said of the tension between teaching and research, it is abundantly clear that most colleges and universitites do not do nearly as well as they can and should to enrich the teaching-learning process. That, too, is hardly a new allegation. In my seminar on the history of higher education, I customarily invoke a Twelfth Century passage from John of Salisbury's essay, "Problems of a Christian Humanist." He was plainly unhappy with the unimaginative teaching he frequently encountered. Of the uninspiring teachers to which he was subjected, he complained that they had not added "one jot of a proposition to their teaching." It is perhaps one of the earlier observations of the Fading Lecture Notes Syndrome! (And since I, myself, have been using that quotation in my class for some years, perhaps I ought not be overly critical of fading lecture notes!)

The tension between teaching and research will not evaporate; it is here to stay. The faculty's responsibility must be to explore the crucial issues raised by the reports and to work diligently toward changes that fit each particular campus. That is the key: <u>each individual campus</u>, for some campuses are plainly overcommitted to research, while others rely too much on teaching to the exclusion of encouraging scholarship. An approach that works well at the University of Alberta may not at the University of Zambia. Stony Brook is not Slippery Rock.

Wisconsin is not Waseda. A campus-based exploration of the degree of harmony between institutional mission and pedagogical practice is a prerequisite for dealing intelligently with the issue of balance.

A Summing Up

By way of summary, it strikes me that the prospect for positive change -- for making academic careers more attractive than they have become -- will depend in some part on faculty self-help. But the faculty alone cannot come close to accomplishing what needs to be done. The crux of the problem is the lack of adequate resources -- resources not so much for the relief of a disgruntled professoriate, but resources for an undernourished system of higher education. Only with the generation of sufficient additional resources can most of the shortcomings I have described be remedied.

The outcome is likely to hinge on the extent to which, in the American political system, the general citizenry becomes convinced that interests far broader than the more narrow economic interest of professors themselves are at stake. Put another way, in the United States, at least, redress can be accomplished only if the central issue explored here -- whether it makes a difference if faculties are of high or mediocre quality -- is perceived beyond our campuses to be consequential for societal interests.

I began this afternoon with an attempt to depict accurately the American faculty's condition and to suggest some implications of these conditions for the future of higher education and, consequently, for the nation's well-being. The current situation has not been one brimming with hope. However, the prospects for improvement may be brighter than the evidence presented thus far would suggest. I am convinced that a redoubled effort by faculty members and administrators, even in these troubled times, can accomplish much. Indeed, though we did not uncover

much in the way of "good news" in our travels, we were profoundly impressed with one consistent finding, again and again: the existence of a faculty which, despite being under duress and demoralized, on the whole remained committed, dedicated, resourceful and resilient.

Those admirable qualities are not enough to reverse the dangerous trends I have described. Nonetheless, the underlying extent of faculty commitment to their work provides an excellent base on which to build.

By way of review, I have attempted today to accomplish five objectives:

To underscore the central importance of the faculty to the higher education enterprise;

To inform you of some of the major findings of our study of the condition of the American professoriate;

To describe a loss of faculty esprit attributable in part to a shift in campus values that we perceive to be widespread;

To describe the impending large gap between the demand for, and supply of, people adequately trained for college and university teaching positions; and,

To broach the issue of balance between the dual objectives of teaching and scholarship.

Finally, I have suggested that appropriate policy interventions designed to secure and retain an adequate faculty, both in terms of the quality and quantity of professors, depends on an informed and committed citizenry.

The academic profession now stands at a crossroads. American colleges and universities, and society at large, are faced with critical choices that must be made in the next several years. These decisions can lead toward a revitalized faculty fully capable of meeting its considerable responsibilities, or to neglect and perhaps irreparable damage to higher education and the national interest.

While my analysis has been directed in the main at the situation prevailing in the United States, those conditions are by no means isolated. Any reading of

academic news from throughout Western Europe, for example, strongly suggests that the perplexing circumstances I have described, at least many of them, are found elsewhere, often in even greater degree. Moreover, the underpinning culture of the academic profession appears to transcend national boundaries; basic values, and vulnerabilities, are shared widely among academics.[12] I think it not unreasonable to assert that the academic profession throughout much of the world stands today at some risk. I speak of the serious risk that the academic profession will be further undervalued and undermined in the years ahead. While many searing problems afflict our fragile planet, surely we must do what we can to protect the sanctity of university life and the professors who strive in their small way to be agents of perspective and enlightenment.

Any nation's colleges and universities can be only as good as their faculties. Put another way, for these vital institutions to meet their responsibilities in a swiftly changing and increasingly complex world, a quality faculty is indispensible. Yet many forces are converging to make less probable that a faculty adequate to the task can be recruited and retained.

I have tried to suggest that any nation must reassess and increase the importance it attaches to our institutions of higher education and to their faculties. The well-being of our respective societies depends in no small measure on the concrete support provided toward that end. Perhaps all gathered here -- faculty and administrators from so many nations -- can help in some small way to draw attention to the adverse consequences of tolerating further deterioration in the quality of academic life.

What John Gardner, a contemporary American sage, once said of education, I apply to the American professoriate: faculty members need neither unloving critics nor uncritical lovers. Yes, there is ample room for improvement of faculty performance, and for intensified support for them, all around.

NOTES

[1] Or the fourth oldest. Americans, quick to rejoice in Harvard's establishment in 1636 virtually in a wilderness, are not often aware that another university was founded on this continent nearly a century earlier: the National University of Mexico, reconstituted in 1910, traces its ancestry to 1551 with the creation of the Royal and Pontifical University.

[2] The three most widely publicized reports to date have been: Study Group on the Conditions of Excellence in American Higher Education, Involvement in Learning: Realizing the Potential of American Higher Education (Washington: National Institute of Education, U.S. Department of Education, October 1984); William J. Bennett, To Reclaim a Legacy: A Report on the Humanities in Higher Education (Washington: National Endowment for the Humanities, November 1984); Association of American Colleges, Integrity in the College Curriculum: A Report to the Academic Community (Washington: Association of American Colleges, February 1985).

[3] A contemporary bibliography on the American professoriate would include a number of books and monographs published recently, including: Ann E. Austin and Zelda F. Gamson, Academic Workplace: New Demands, Heightened Tensions (Washington: ASHE-ERIC Higher Education Research Report No. 10, 1983);

Winfred Albizu Melendez and Rafael M. de Guzman, Burnout: The New Academic Disease (Washington: ASHE-ERIC Higher Education Research Report No. 9, 1983);

Martin J. Finkelstein, The American Academic Profession: A Synthesis of Social Scientific Inquiry Since World War II (Columbus, OH: Ohio State University Press, 1984);

Harold E. Yuker, Faculty Workload: Research, Theory and Interpretation (Washington: ASHE-ERIC Higher Education Research Report No. 10, 1984);

Roger J. Baldwin (Ed.) Incentives for Faculty Vitality (San Francisco: Jossey-Bass, 1985);

Carol M. Boyer and Darrell R. Lewis, And on the Seventh Day: Faculty Consulting and Supplemental Income (Washington: Higher Education Report No. 3, 1985);

Shirley M. Clark and Darrell R. Lewis (Eds.), Faculty Vitality and Institutional Productivity: Critical Perspectives for Higher Education (New York: Teachers College Press, 1985);

John W. Creswell, Faculty Research Performance (Washington: ASHEI-ERIC Higher Education Report No. 4, 1985);

Carol E. Floyd, Faculty Participation in Decision Making: Necessity or Luxury? (Washington: ASHE-ERIC Higher Education Report No. 8, 1985);

Kennth P. Mortimer, Marque Bagshaw and Andrew T. Masland, Flexibility in Academic Staffing Effective Policies and Practices (Washington: ASHE-ERIC Higher Education Report No. 1, 1985);

Earl Seidman, In the Words of the Faculty: Perspectives on Improving Teaching and Educational Quality in Community Colleges (San Francisco: Jossey-Bass, 1985).

[4] Christopher Jencks and David Riesman, The Academic Revolution (New York: Basic Books, 1968), p. 17.

[5] Stephen K. Bailey, Chronicle of Higher Education, May 28, 1974.

[6] See Howard R. Bowen and Jack H. Schuster, American Professors (New York: Oxford University Press, 1986), pp. 3-4.

[7] Jean Evangelauf, "Professors' Salaries Increase 6.1 Pct., Average $33,091," Chronicle of Higher Education, April 2, 1986, pp. 1, 25; W. Lee Hansen, "Continuing the Upward Climb: The Annual Report on the Economic Status of the Profession, 1985-86," Academe, March-April 1986, pp. 3-19.

[8] For a more complete discussion of this point, see Bowen and Schuster, op. cit., pp. 146-152 and Schuster and Bowen, "The Faculty at Risk", Change, Sept.-Oct. 1985, pp. 17-21.

[9] The phrase is from Blair Neatby, "The Academimc Profession: An Historical Perspective," in Ontario Institute for Studies in Education, The Professoriate - Occupation in Crisis (Toronto: OISE, 1985), p. 21.

[10] See Carnegie Foundation for the Advancement of Teaching, "Change Trendlines," Change, Sept.-Oct., 1985, pp. 31-34 and March-April 1986, pp. 31-34. See also Robert L. Jacobson, "Nearly 40 Pct. of Faculty Members Said to Consider Leaving Academe," Chronicle of Higher Education, Oct. 23, 1985, pp. 1, 22.

[11] See Bowen and Schuster, op. cit., Chap. 11.

[12] See, for example, Burton R. Clark, The Higher Education System: Academic Organization in Cross-National Perspective (Berkeley: University of California Press, 1983), especially Chapter 3.